K Ephemerides

The LADIES' Diary:

OR

WOMAN'S ALMANACK,

PP 2465 / 2

For the Year of our LORD 1793;
Being the Firſt after BISSEXTILE, or LEAP-YEAR.
Containing New Improvements in ARTS and SCIENCES,
And many Entertaining PARTICULARS:
Deſigned for the *Uſe* and *Diverſion* of the

FAIR-SEX.

The Ninetieth ALMANACK Publiſhed of this Kind.

46-6-24-99

BRITISH MUSEUM

VIRTUE and SENSE, with FEMALE-SOFTNESS join'd,
(ALL that ſubdues and captivates Mankind;)
In BRITAIN's Matchleſs FAIR reſplendent ſhine;
THEY rule LOVE's Empire by a Right Divine:
Juſtly their Charms the aſtoniſh'd World admires,
Whom *Royal* CHARLOTTE's bright Example fires.

LONDON:
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And ſold by ROBERT HORSFIELD, at their Hall in Ludgate-Street.
[Price ſtitched, TEN-PENCE.]

Y. of Chriſt.		Ys. ſince.
1600	King Charles I. born	193
1603	Q. Eliz. died, K. Ja. ſucc.	190
1603	A great Plague in London	190
1605	Popiſh Gun-powder Plot	188
1616	Shakſpeare the poet died	177
1625	K. James died, Cha. I. ſucc.	168
1641	Bloody Iriſh maſſacre -	152
1642	Sir I. Newton born, Dec. 25	151
1649	K. Charles I. beheaded	144
1658	Oliver Cromwell died -	135
1660	K. Charles II. reſtored	133
1662	Royal Society inſtituted	131
1665	Died of the plague 68,586	128
1666	Great fire in London -	127
1666	War againſt Denmark decl.	127
1667	Peace with Hol. Fr. & Den.	126
1672	War againſt Holland decl.	121
1672	Halfpence & Farth. coined	121
1674	Peace with Holland procl.	119
1679	Habeas Corpus act paſſed	114
1685	K. Cha. II. died, Ja. II. ſucc.	108
1688	Prince of Orange landed	105
1688	K. James II. abdicated	105
1689	Wm. and Mary crowned	104
1693	Hackney coaches eſtabliſhed	100
1702	K. Wm. died, Q. Ann ſucc.	91
1702	War againſt France declared	91
1707	England & Scotland united	86
1713	Peace with France procl.	80
1714	Q. Ann died, K. Geo. I. ſucc.	
1715	Rebellion in the north -	
1716	A very great froſt -	
1726	Sir Iſaac Newton died -	
1727	K. Geo. I. died; Geo. II. ſucc.	
1739	War againſt Spain declared	
1739	A very great froſt . -	
1743	A great comet appeared	
1744	War againſt France declared	
1745	Rebellion in Scotland -	
1748	A general peace -	
1750	Weſtminſter bridge finiſhed	
1752	Date and Calendar altered	
1756	War againſt France declared	
1760	K. Geo. II. died, G. III. ſucc.	
1762	American philoſ. ſoc. inſtit.	
1762	War againſt Spain declared	
1763	Peace with France & Spain	
1765	Otaheite diſcovered -	
1770	Blackfriars bridge finiſhed	
1772	A revolution in Denmark	
1772	A revolution in Sweden	
1775	War againſt America begun	
1776	America declared independent	
1778	French treaty with America	
1778	War againſt France begun	
1779	War againſt Spain begun	
1780	War againſt Holland begun	
1783	A general peace -	

BIRTH-DAYS, [N.S.] and YEARS, of the ROYAL FAMIL
of GREAT BRITAIN.

KING GEORGE III. June 4,	1738
Prince of Wales, Auguſt 12,	1762
Duke of York, Auguſt 16,	1763
Duke of Clarence, Aug. 21,	1765
Princeſs Royal, Septem. 29,	1766
Prince Edward, Nov. 2, -	1767
Prs. Auguſta Sophia, Nov. 8,	1768
Prs. Elizabeth, May 22, -	1770
Prince Erneſt Auguſtus, June 5,	1771
Prince Aug. Fred. Jan. 27,	17
Prince Adolph. Fred. Feb. 24,	17
Princeſs Mary, April 25, -	17
Princeſs Sophia, Nov. 3, -	17
Princeſs Amelia, Aug. 7, -	17
Queen Charlotte, May 19, -	17
Prs. Auguſta of Brunſw. Aug. 11,	17
Duke of Glouceſter, Nov. 25,	17

YEARS of BIRTHS of the Principal SOVEREIGN PRINCES of EUROPE.

Pius VI. Pope - -	1717
Victor Amada Maria K. Sardinia	1726
Catherine, Empreſs of Ruſſia,	1729
Staniſlaus Aug. King of Poland	1732
Maria, Queen of Portugal -	1734
Fred. William, King of Pruſſia,	1744
Guſtavus IV. King of Sweden,	1778
Francis II. Emp. Germ. -	17
William V. Stadtholder, -	17
Charles, IV. King of Spain,	17
Chriſtian VII. K. of Denmark,	17
Ferdinand IV. King of Sicily,	17
Lewis XVI. King of France	17
Selim III. Grand Seignor -	17

N° 90. January hath xxxi Days.

Laſt Quarter, 5th, 58m paſt noon.
New Moon, 12th, 59m. paſt 8 morn.
Firſt Quarter, 19th, 29m. paſt 2 morn.
Full Moon, 27th, 34m. paſt 4 morn.

Sun enters ♒
18d. 23h. 58m.

1	Tu	Circumciſion	8	4	3	56	22 s	57	8 a 30	19
2	W			4		56		52	9 32	20
3	Th			3		57		45	10 35	21
4	F			3		58		39	11 41	22
5	S	*Old Chriſtmas Day*		2		58		32	morn	23
6	F	2 S. aft. Chriſt. Epiphan.		1		59		25	0 48	24
7	M	*Plow Monday* [*Twelfth-d.*		0	4	0		17	1 57	25
8	Tu	*Lucian*	7	59		1		9	3 8	26
9	W			58		2		0	4 21	27
0	Th			57		3	21	51	5 31	28
1	F			56		4		41	6 35	29
2	S	*Old New-Year's Day*		55		5		31	☽ ſets	N
3	F	1 S. af. Epip. *Hila.* Cam.		54		6		21	6 a 1	1
4	M	Oxf. Term b. [Te. beg.		52		8		10	7 21	2
5	Tu			51		9	20	59	8 40	3
6	W			50		10		47	9 57	4
7	Th	*Old Twelfth Day*		49		11		35	11 10	5
8	F	Q. Char. b. d. K. *Priſca*		47		13		23	morn	6
9	S			46		14		10	0 20	7
0	F	2 Sun. aft. Epip. *Fabian.*		45		15	19	57	1 28	8
1	M	*Agnes.* Hil. Ter. 1 return		43		17		44	2 30	9
2	Tu	*Vincent*		42		18		30	3 33	10
3	W	Hilary Term begins		40		20		15	4 30	11
4	Th			39		21		1	5 23	12
5	F	Converſion of St. Paul		37		23	18	46	6 7	13
6	S			36		24		31	6 46	14
7	F	Septuag. S. Pr. Aug. F. b.		34		26		15	☽ riſes	F
8	M	Hilary 2 return		33		27	17	59	6 a 13	16
9	Tu			31		29		43	7 14	17
0	W	K. Charles I. mart. 1649		29		31		26	8 17	18
1	Th			28		32		9	9 22	19

ays	L. of D.		Day Inc.		D.breaks		Tw. ends		Sun Eaſt		Cl. bef. S.		7 Stars So.	
1	7	52	0	8	5	59	6	1	4	41	4′	23″	8 a	42
6		58		14		57		3		43	6	39		20
11	8	8		24		53		7		46	8	42	7	58
16		20		36		49		11		50	10	29		37
21		34		50		44		16		54	12	0		16
26		48	1	4		38		22		58	1	11	6	55

February hath xxviii Days. 1793.

Laſt Quarter,	4th,	38m. paſt	3 morn.	Sun enters ♓
New Moon,	10th,	26m. paſt	7 after.	17d. 14h. 46m.
Firſt Quarter,	17th,	0m. paſt	6 aftern.	
Full Moon,	25th,	36m. paſt	10 night.	

M D	W D	Sundays, Holydays, &c.	Sun riſes	Sun ſets	Sun's decl.	☽ riſes & ſets	☽'s Age
1	F		7 26	4 34	16s52	10 a 29	20
2	S	Purif. or Candlemas-day	24	36	35	11 36	21
3	F	Sexageſima Sunday *Blas*	23	37	17	morn	22
4	M	Hilary Term 3 return	21	39	15 59	0 44	23
5	Tu	*Agatha*	19	41	41	1 53	24
6	W		17	43	22	3 3	25
7	Th		15	45	3	4 6	26
8	F		14	46	14 44	5 6	27
9	S	Hilary Term 4th return	12	48	25	5 57	28
10	F	Quinq. or Shrove Sun.	10	50	5	☽ ſets	N
11	M		8	52	13 45	6 a 15	1
12	Tu	Shrove Tueſday Hil. T. e.	6	54	25	7 25	2
13	W	Aſh Wedneſday *Old Ca. d.*	4	56	5	8 43	3
14	Th	*Valentine*	3	57	12 45	9 58	4
15	F	*Cam. Term divides n.*	1	59	24	11 10	5
16	S		6 59	5 1	3	morn	6
17	F	Quadr. or 1 Sun. in Lent	57	3	11 42	0 18	7
18	M		55	5	21	1 22	8
19	Tu		53	7	10 59	2 22	9
20	W	Ember Week	51	9	38	3 15	10
21	Th		49	11	16	4 3	11
22	F		47	13	9 54	4 44	12
23	S		45	15	32	5 20	13
24	F	2 Sun. in Le. St. Matthi. [Pr.Ad.Fred.b.	43	17	10	5 53	14
25	M		41	19	8 48	☽ riſes	F
26	Tu		39	21	25	6 a 10	16
27	W		38	22	3	7 14	17
28	Th		36	24	7 40	8 20	18

Days	L. of D.	Day Inc.	D.breaks	Tw. ends	Sun Eaſt	Cl. bef. S.	7 Stars So
1	9 8	1 24	5 30	6 30	5 4	14′ 10″	6 a 31
6	26	42	22	38	9	36	10
11	44	2 0	14	46	15	41	5 50
16	10 2	18	6	55	21	27	31
21	22	38	4 57	7 4	27	13 56	12
26	42	58	48	13	33	10	4 53

N° 90.

March hath xxxi Days.

Laſt Quarter, 5th, 38m. paſt 2 aftern.
New Moon, 12th, 57m. paſt 5 morn.
First Quarter, 19th, 37m. paſt 11 morn.
Full Moon, 27th, 34m. paſt 3 aftern.

Sun enters ♈
19d. 15h. 8m.

1	F	*David*	6	34	5	26	7 s	17	9 a	27	19
2	S	*Chad*		32		28	6	54	10	36	20
3	F	3 Sunday in Lent		30		30		31	11	45	21
4	M			28		32		8	morn		22
5	Tu			26		34	5	45	0	52	23
6	W			24		36		22	1	58	24
7	Th	*Perpetua*		22		38	4	58	2	58	25
8	F			20		40		35	3	50	26
9	S			18		42		11	4	35	27
10	F	4th or Midlent Sunday		16		44	3	48	5	14	28
11	M			14		46		24	5	50	29
12	Tu	*Gregory Mart.*		12		48		1	☽	ſets	N
13	W			10		50	2	37	7 a	36	1
14	Th			8		52		13	8	49	2
15	F			6		54	1	50	9	59	3
16	S			4		56		26	11	7	4
17	F	5 Su. in Lent. *St. Patrick*		2		58		2	morn		5
18	M	*Edward K. of Weſt Saxons*		0	6	0	0	39	0	14	6
19	Tu		5	58		2		15	1	13	7
20	W			56		4	n	9	2	4	8
21	Th	*Benedict*		54		6		32	2	48	9
22	F	Cam. Term ends		52		8		56	3	25	10
23	S	Oxf. Term ends		50		10	1	20	4	0	11
24	F	6 Sun. L. or Palm Sunday		48		12		43	4	30	12
25	M	Annunciation, Lady Day		46		14	2	7	4	58	13
26	Tu			44		16		30	5	21	14
27	W			42		18		54	☽	riſes	F
28	Th	*Maundy Thurſday*		40		20	3	17	7 a	24	16
29	F	Good Friday		38		22		40	8	34	17
30	S			36		24	4	4	9	44	18
31	F	Eaſter Day		34		26		27	10	52	19

Days	L. of D.		Day Inc.		D.breaks		Tw. ends		Sun Eaſt		Cl. bef. S.		7 Stars So.	
1	10	52	3	8	4	43	7	18	5	37	12′	35″	4 a	42
6	11	12		28		32		29		43	11	27		24
11		32		48		21		40		49	10	8		6
16		52	4	8		11		50		55	8	43	3	47
21	12	12		28		0	8	1	6	2	7	12		29
26		32		48	3	48		12		8	5	29		11

April hath xxx Days.

Laſt Quarter,	3d,	32m. paſt	10 night.	Sun enters ♉
New Moon,	10th,	35m. paſt	4 aftern.	19d. 3h. 51m.
Firſt Quarter,	18th,	20m. paſt	6 morn.	
Full Moon,	26th,	19m. paſt	5 morn.	

1	M	Eaſter Monday	5 32	6 28	4n50	11 a 59	20
2	Tu	Eaſter Tueſday	30	30	5 13	morn	21
3	W	*Richard Bp. of Chicheſter*	28	32	36	1 0	22
4	Th	*St. Ambroſe*	26	34	59	1 55	23
5	F	*Old Lady Day*	24	36	6 21	2 42	24
6	S		22	38	44	3 22	25
7	F	1 S. aft. Eaſt. Low Sun.	20	40	7 7	3 56	26
8	M		18	42	29	4 28	27
9	Tu		17	43	51	4 57	28
10	W	Oxf. and Cam. T. begins	15	45	8 13	☽ ſets	N
11	Th		13	47	35	7 a 50	1
12	F		11	49	57	9 3	2
13	S		9	51	9 19	10 8	3
14	F	2 Sunday after Eaſter	7	53	40	11 9	4
15	M	Eaſter Term 1 return	5	55	10 2	morn	5
16	Tu		3	57	23	0 5	6
17	W	Eaſter Term begins	1	59	44	0 51	7
18	Th		4 59	7 1	11 5	1 32	8
19	F	*Alphege*	57	3	26	2 8	9
20	S		56	4	46	2 40	10
21	F	3 Sunday after Eaſter	54	6	12 6	3 8	11
22	M	Eaſter Term 2 return	52	8	27	3 32	12
23	Tu	St. George	50	10	47	3 55	13
24	W		48	12	13 6	4 20	14
25	Th	St. Mark. Pr. M. b. 1776.	46	14	26	4 46	15
26	F		45	15	45	☽ riſes	F
27	S		43	17	14 4	8 a 46	17
28	F	4 Sunday after Eaſter	41	19	23	9 55	18
29	M	Eaſter Term 3 return	39	21	41	11 1	19
30	Tu		37	23	15 0	11 58	20

Days	L. of D.	Day Inc.	D. breaks	Tw. ends	Sun Eaſt	Cl. bef. S.	7 Stars So
1	12 56	5 12	3 33	8 28	6 15	3′ 48″	2 a 49
6	13 16	32	20	41	21	2 18	31
11	34	50	6	55	27	0 53	12
16	54	6 10	2 54	9 7	33	0 a 24	1 54
21	14 12	28	40	21	39	1 31	35
26	30	46	23	38	45	2 27	16

Laſt Quarter,	3d, 25m. paſt 4 morn.	Sun enters ♊
New Moon,	10th, 31m. paſt 3 morn.	20d. 4h. 26m.
Firſt Quarter,	17th, 53m. paſt 12 night.	
Full Moon,	25th, 52m. paſt 3 aftern.	

1	W	St. Philip and James	4 36	7 24	15n18	morn		21
2	Th		34	26	36	0	49	22
3	F	*Invention of Croſs*	32	28	53	1	29	23
4	S		31	29	16 11	2	5	24
5	F	5 or Rogation Sunday	29	31	28	2	37	25
6	M	*J.Ev.a.P.L.* Eaſt. T. 4 re.	27	33	44	3	6	26
7	Tu		25	35	17 1	3	32	27
8	W		24	36	17	4	0	28
9	Th	Aſcenſion or Holy Thurſ.	22	38	33	4	28	29
10	F	Eaſter Term 5 return	21	39	49	☽ ſets		N
11	S		19	41	18 4	9 a	6	1
12	F	Sun. a. Aſcen. *Old MayD.*	18	42	19	9	59	2
13	M	Eaſter Term ends	16	44	34	10	49	3
14	Tu		14	46	48	11	34	4
15	W		13	47	19 2	morn		5
16	Th	Oxf. Term ends	12	48	16	0	12	6
17	F		10	50	30	0	44	7
18	S	[*Dunſtan*	9	51	43	1	12	8
19	F	Whit Sund. Qu. Char. b.	7	53	56	1	37	9
20	M	Whit Monday	6	54	20 8	2	1	10
21	Tu	Whit Tueſday	5	55	20	2	25	11
22	W	Prs. Eliz. b. Ember We.	3	57	32	2	49	12
23	Th	[*Cam.T.div.n.*	2	58	43	3	14	13
24	F		1	59	54	3	44	14
25	S		0	8 0	21 5	☽ riſes		F
26	F	Trinity S. *Aug. Abp. Can*	3 58	2	15	8 a	48	16
27	M	*Vener. Bede.* Trin. T. 1 re.	57	3	25	9	51	17
28	Tu		56	4	35	10	45	18
29	W	K. Ch. II. reſt. Oxf. T.b	55	5	44	11	31	19
30	Th	Corpus Chriſti	54	6	53	morn		20
31	F	Trinity Term begins	53	7	22 2	0	9	21

Days	L. of D.	Day Inc.	D.breaks	Tw. ends	Sun Eaſt	Cl. aft. S.	7 Stars So.
1	14 48	7 4	2 4	9 58	6 50	3′ 11″	0 a 57
6	15 6	22	1 50	10 12	55	42	38
11	22	38	28	34	7 0	58	19
16	36	54	4	59	4	4 0	11 m 59
21	50	8 8	0 24	11 41	8	3 48	40
26	16 4	22	No real Night		12	21	20

June hath xxx Days.

Laſt Quarter,	1ſt,	33m. paſt	9 morn.	
New Moon,	8th,	17m. paſt	3 aftern.	
Firſt Quarter,	16th,	0m. paſt	6 aftern.	
Full Moon,	23d,	8m. paſt	12 night.	
Laſt Quarter,	30th,	14m. paſt	3 aftern.	

Sun enters ♋ 20d. 13h. 10m.

1	S	*Nicomede*	3 52	8 8	22n10	0m43	22
2	F	1 Sunday after Trinity	51	9	17	1 10	23
3	M	Trin. Term 2 return	51	9	25	1 36	24
4	Tu	King Geo. III. b. 1738	50	10	32	2 3	25
5	W	Pr. Erneſt Augu. b. 1771	49	11	38	2 29	26
6	Th	[*Boniface*	48	12	44	3 0	27
7	F		48	12	50	3 33	28
8	S		47	13	55	☽ ſets	N
9	F	2 Sunday after Trinity	46	14	23 0	8 a 40	1
10	M	Trinity Term 3 return	46	14	5	9 27	2
11	Tu	St. Barnabas	45	15	9	10 7	3
12	W		45	15	13	10 42	4
13	Th		44	16	16	11 13	5
14	F		44	16	19	11 38	6
15	S		44	16	21	morn	7
16	F	3 Sunday after Trinity	43	17	24	0 3	8
17	M	*St. Alban.* Trin. T. 4 re.	Longeſt Day at Lond. is 16h. 34m. 4ſec.	allowing 9m. 16 ſec. for refraction.	25	0 24	9
18	Tu				26	0 47	10
19	W	Trinity Term ends			27	1 11	11
20	Th	*Tranſ. Edw. K. W. Saxons*			28	1 37	12
21	F	Longeſt Day			28	2 8	13
22	S				27	2 45	14
23	F	4 Sunday after Trinity			27	☽ riſes	F
24	M	Na. of St. J. Bapt. Midſ. D.			25	8 a 32	16
25	Tu		43	17	24	9 22	17
26	W		43	16	22	10 3	18
27	Th		44	16	19	10 39	19
28	F		44	16	16	11 9	20
29	S	St. Peter	44	15	13	11 37	21
30	F	5 Sunday after Trinity	45	15	9	morn	22

Days	L. of D.	Day Inc.	D.breaks	Tw. ends	Sun Eaſt	Cl. aft. S.	7 Stars So.
1	16 16	8 34			7 16	2′ 35″	10 m 55
6	24	52	No night, but conſtant day or twilight.		18	1 45	35
11	30	9 8			19	0 49	15
16	34	22			20	0 b 14	9 56
21	34	22			21	1 19	33
26	32	odec. 2			20	2 23	13

July hath xxxi Days.

New Moon,	8th, 33m. paſt	4 morn.	Sun enters ♌
Firſt Quarter,	16th, 54m. paſt	8 morn.	22d. 0h. 4m.
Full Moon,	23d, 22m. paſt	7 morn.	
Laſt Quarter,	29th, 46m. paſt	10 night.	

1	M		3 46	8 14	23 5	0 m 3	23
2	Tu	*Viſita. of V. M.* Ca. Com.	46	14	1	0 29	24
3	W	Dog Days begin	4	13	22 56	0 58	25
4	Th	*Tranſ. of St. Martin*	4	13	51	1 29	26
5	F	Camb. T. e. *Old Midſ. da.*	48	12	4	2 4	27
6	S		49	11	39	2 45	28
7	F	6 Sun. af. Tr. *Tho. à Bec.*	4	1	32	3 29	29
8	M	**Oxford Act**	50	1	26	☽ ſets	N
9	Tu		51	9	18	8 a 38	1
10	W		52	8	1	9 9	2
11	Th		53	7	3	9 36	3
12	F		54	6	21 54	10 2	4
13	S	**Oxf.** Term ends	55	5	45	10 25	5
14	F	7 Sunday after Trinity	56	4	36	10 47	6
15	M	*Swithin*	57	3	27	11 10	7
16	Tu		58	2	17	11 35	8
17	W		59	1	7	morn	9
18	Th		4 0	0	20 56	0 3	10
19	F		2	7 58	45	0 37	11
20	S	*Margaret*	3	5	34	1 17	12
21	F	8 Sunday after Trinity	4	56	22	2 5	13
22	M	*Magdalen*	5	55	10	3 5	14
23	Tu		7	53	19 58	☽ riſes	F
24	W		8	52	45	8 a 32	16
25	Th	St. James	10	50	32	9 7	17
26	F	*St. Anne Mo. of the V. M.*	11	49	19	9 36	18
27	S		12	48	5	10 4	19
28	F	9 Sunday after Trinity	14	46	18 51	10 32	20
29	M		15	45	37	10 59	21
30	Tu		17	4	23	11 31	22
31	W		18	42	8	morn	23

Days	L. of D.	Day dec.	D breaks	Tw. ends	Sun East	Cl. bef. S.	Stars So
1	16 28	0 6			7 19	3′ 23″	8 m 52
6	22	12			18	4 17	32
11	14	20	No real Night		15	5 1	11
16	4	30			12	34	7 51
21	15 52	42			9	56	31
26	38	56	0 52	11 4	5	6 3	11

Auguſt hath xxxi Days. 1793.

New Moon, 6th, 33m. paſt 7 aftern.
Firſt Quarter, 14th, 26m. paſt 9 night
Full Moon, 21ſt, 45m. paſt 2 aftern.
Laſt Quarter, 28th, 18m. paſt 9 morn.

Sun enters ♍
22d. 6h. 28m.

1	TH	Lammas Day	4	20	7	40	17n	53	0 m	5	24
2	F			22		38		37	0	44	25
3	S			24		37		21	1	26	26
4	F	10 Sunday after Trinity		25		35		5	2	16	27
5	M			26		34	16	49	3	9	28
6	Tu	*Transfiguration of our Lord*		28		32		33	☽ ſets		N
7	W	Prs. Ame. b. *Na. of Jeſus*		30		30		16	7 a	34	1
8	TH			31		29	15	59	8	7	2
9	F			33		27		41	8	30	3
10	S	*St. Laurence* [Dog D. e.		35		25		24	8	54	4
11	F	11 S. a. Tri. Prs. Brunſ. b.		37		23		6	9	15	5
12	M	Pr. Wales b. *O. Lam. day*		38		22	14	48	9	40	6
13	Tu			40		20		29	10	6	7
14	W			42		18		11	10	36	8
15	TH	*Aſſumption of V. M.*		44		16	13	52	11	12	9
16	F	Duke of York born 1763		45		15		33	11	55	10
17	S			47		13		14	morn		11
18	F	12 Sunday after Trinity		49		11	12	54	0	49	12
19	M			51		9		35	1	52	13
20	Tu			53		7		15	3	4	14
21	W	Duke of Clarence b. 1765		54		6	11	55	☽ riſes		F
22	TH			56		4		34	7 a	38	16
23	F			58		2		14	8	8	17
24	S	St. Bartholomew	5	0		0	10	53	8	37	18
25	F	13 Sunday after Trinity		2	6	58		33	9	5	19
26	M			4		56		12	9	36	20
27	Tu			6		54	9	51	10	10	21
28	W	*St. Auguſtine*		8		52		29	10	48	22
29	TH	*St. J. Baptiſt beheaded*		9		51		8	11	30	23
30	F			11		49	8	47	morn		24
31	S			13		47		25	0	16	25

Days	L. of D.		Day dec.		D.breaks		Tw. ends		Sun Eaſt		Cl. bef. S.		7 Stars So	
1	15	20	1	14	1	24	10	34	7	0	5′	53″	6 m	47
6		4		30		44		14	6	55		24		28
11	14	46		48	2	2	9	56		50	4	43		9
16		30	2	4		20		39		44	3	49	5	50
21		12		22		35		24		39	2	42		31
26	13	52		40		50		0		33	1	23		12

N°. 90. September hath xxx Days.

					Sun enters ♎
New Moon,	5th,	57m.	paſt	11 morn.	22d. 2h. 58m.
Firſt Quarter,	13th,	52m.	paſt	7 morn.	
Full Moon,	19th,	8m.	paſt	11 night	
Laſt Quarter,	26th,	36m.	paſt	11 night	

1	F	14 Sun. after Trin.	*Giles*	5 15	6 45	8n 3	1 m 9	26
2	M	London burnt 1666		17	43	7 41	2 5	27
3	Tu			19	41	19	3 4	28
4	W			21	39	6 57	4 6	29
5	Th			23	37	34	☽ ſets	N
6	F			25	35	12	7 a 6	1
7	S	*Eunurchus*		27	33	5 49	7 29	2
8	F	15 Sun. af. Tri.	*Nati. V. M.*	29	31	27	7 52	3
9	M			31	29	4	8 18	4
10	Tu			32	28	4 41	8 47	5
11	W			34	26	18	9 18	6
12	Th			36	24	3 55	9 58	7
13	F			38	22	32	10 47	8
14	S			40	20	9	11 43	9
15	F	16 Sunday after Trin.		42	18	2 46	morn	10
16	M			44	16	23	0 51	11
17	Tu	*Lambert*		46	14	0	2 5	12
18	W	Ember Week		48	12	1 36	3 25	13
19	Th			50	10	13	☽ riſes	F
20	F			52	8	0 50	6 a 42	15
21	S	St. Matthew		54	6	26	7 12	16
22	F	17 S. a. Tr. K. Geo. III. cr.		56	4	3	7 43	17
23	M			58	2	0s 21	8 16	18
24	Tu			6 0	0	44	8 52	19
25	W	*Holy-Croſs*		2	5 58	1 7	9 34	20
26	Th	*St. Cyprian*		4	56	31	10 21	21
27	F			6	54	54	11 12	22
28	S		[Royal b.	8	52	2 18	morn	23
29	F	18 S. af. Tr. St. Mich. Prs.		10	50	41	0 7	24
30	M	*St. Jerome*		12	48	3 4	1 6	25

Days	L. of D.	Day dec.	D. breaks	Tw. ends	Sun Eaſt	Cl. aft. S.	7 Stars So.
1	13 30	3 4	3 7	8 52	6 26	0′ 24″	4 m 51
6	10	24	21	38	20	2 2	33
11	12 52	42	34	25	14	3 44	15
16	32	4 2	45	14	8	5 28	3 57
21	12	22	56	3	2	7 12	40
26	11 52	42	4 7	7 52	5 55	8 54	20

October hath xxxi Days. 1793.

New Moon, 5th, 37m. paſt 4 morn.
Firſt Quarter, 12th, 46m. paſt 4 aftern.
Full Moon, 19th, 0m. paſt 9 morn.
Laſt Quarter, 26th, 47m. paſt 5 aftern.

Sun enters ♏
22d. 10h. 56m.

1	Tu	*Remigius*	6	14	5	46	3s	28	2 m	6	26
2	W			16		44		51	3	10	27
3	Th			18		42	4	14	4	12	28
4	F			20		40		38	5	15	29
5	S			22		38	5	1	☽ ſets		N
6	F	19 Sunday after Trinity.		24		36		24	6 a	31	1
7	M	[*Faith*		26		34		47	6	58	2
8	Tu			28		32	6	10	7	29	3
9	W	*St. Denys*		29		31		33	8	7	4
10	Th	Oxf.and Ca.T.b. O.Mic.		31		29		55	8	52	5
11	F	[day		33		27	7	18	9	43	6
12	S			35		25		41	10	44	7
13	F	20 Sunday after Trinity.		37		23	8	3	11	52	8
14	M	[*Tranſ.K.Edw.C.*		39		21		25	morn		9
15	Tu			41		19		48	1	9	10
16	W			43		17	9	10	2	28	11
17	Th	*Etheldred*		45		15		32	3	47	12
18	F	St. Luke		47		13		54	5	9	13
19	S			49		11	10	15	☽ riſes		F
20	F	21 Sunday after Trinity		51		9		37	6 a	16	15
21	M			53		7		58	6	52	16
22	Tu			55		5	11	19	7	33	17
23	W			56		4		40	8	17	18
24	Th			58		2	12	1	9	7	19
25	F	K. Geo. III. Acceſ. *Criſp*	7	0		0		22	10	3	20
26	S	K. Geo. III. Procl. 1760		2	4	58		43	11	0	21
27	F	22 Sun. after Trinity		4		56	13	3	11	59	22
28	M	St. Simon and Jude		6		54		23	morn		23
29	Tu			8		52		43	1	2	24
30	W			9		51	14	2	2	5	25
31	Th			11		49		22	3	9	26

Days	L. of D.	Day dec.	D.breaks	Tw. ends	Sun Eaſt	Cl. aft. S.	7 Stars So
1	11 32	5 2	4 18	7 41	5 49	10′ 32″	3 m 4
6	12	22	29	30	43	12 2	2 46
11	10 54	40	39	20	37	13 22	27
16	34	6 0	49	10	31	14 28	8
21	14	20	59	0	25	15 20	1 50
26	9 56	38	5 8	6 51	19	56	29

November hath xxx Days.

New Moon, 3d, 20m. paſt 8 night.
Firſt Quarter, 10th, 44m. paſt 12 night.
Full Moon, 17th, 40m. paſt 8 night.
Laſt Quarter, 25th, 47m. paſt 2 aftern.

Sun enters ♐
21d. 7h. 8m.

1	F	All Saints	7 13	4 47	14^s 41	4 m 13	27
2	S	Prince Edward b. *All Souls*	15	45	15 0	5 18	28
3	F	23 S. af. Tri. Prs. Soph. b.	17	43	19	☽ ſets	N
4	M	K. Will. lan. [Mic. T. 1 re.	18	42	37	5 a 32	1
5	Tu	Powder Plot, 1605	20	40	56	6 8	2
6	W	*Leonard.* Mich. Term b.	22	38	16 14	6 50	3
7	Th		24	36	31	7 41	4
8	F	Prs. Aug. Sophia b. 1768	25	35	49	8 40	5
9	S	Ld. Mayor's Day at Lond.	27	33	17 6	9 45	6
10	F	24 Sunday after Trinity	29	31	23	10 58	7
11	M	*St. Martin*	30	30	39	morn	8
12	Tu	Mic. T. 2 re. Ca. T. div. m.	32	28	55	0 13	9
13	W	*Britius*	33	27	18 11	1 29	10
14	Th		35	25	27	2 48	11
15	F	*Machutus*	37	23	42	4 5	12
16	S		38	22	57	5 23	13
17	F	25 S. aſt. Trin. *Hugh Bp. L.*	40	20	19 12	☽ riſes	F
18	M	Mich. Term 3 return	41	19	26	5 a 24	15
19	Tu		42	18	40	6 6	16
20	W	*Edmund K. & Mart.*	44	16	53	6 54	17
21	Th		45	15	20 6	7 46	18
22	F	*Cæcilia. Old Mart. day*	47	13	19	8 44	19
23	S	*St. Clement*	48	12	32	9 44	20
24	F	26 Sunday after Trinity	49	11	44	10 44	21
25	M	D. Glou. b. *Cath.* Mic. T.	51	9	55	11 46	22
26	Tu	[4 re.	52	8	21 7	morn	23
27	W		53	7	17	0 50	24
28	Th	Mich. Term ends	54	6	28	1 54	25
29	F		55	5	38	2 58	26
30	S	St. Andrew	56	4	48	4 4	27

Days	L. of D.	Day dec.	D. breaks	Tw. ends	Sun Eaſt	Cl. aft. S.	7 Stars So.
1	9 34	7 0	5 17	6 42	5 12	16′ 14″	1 m 4
6	16	18	24	35	7	8	0 44
11	0	34	32	28	1	15 40	24
16	8 44	50	37	23	4 57	14 51	3
21	30	8 4	43	17	52	13 40	11 a 42
26	16	18	49	11	40	12 11	21

December hath xxxi Days.

New Moon, 3d, 47m. paſt 10 morn.
Firſt Quarter, 10th, 29m. paſt 8 morn.
Full Moon, 17th, 52m. paſt 10 morn.
Laſt Quarter, 25th, 32m. paſt 12 noon.

Sun enters ♑
20d. 19h. 29m.

1	F	Advent Sunday	7	57	4	3	21s	57	5 m 11	28
2	M			58		2	22	6	6 22	29
3	Tu			59		1		14	☽ ſets	N
4	W		8	0		0		22	5 a 25	1
5	Th			1	3	59		30	6 23	2
6	F	*Nicholas*		2		58		37	7 28	3
7	S			3		57		43	8 39	4
8	F	2 S. in Advent *Conce.V.M.*		3		57		49	9 55	5
9	M			4		56		55	11 12	6
10	Tu			5		55	23	0	morn	7
11	W			5		55		5	0 28	8
12	Th			6		54		10	1 42	9
13	F	*Lucy*		6		54		13	2 56	10
14	S			7		53		17	4 10	11
15	F	3 Sunday in Advent		7		53		20	5 23	12
16	M	O. *Sapient*. **Cam.** Term e.		7		53		22	6 30	13
17	Tu	**Oxf.** Term ends		8		52		24	☽ riſes	F
18	W	Ember Week	Shorteſt D. at Lond. is 7h. 44m. 17ſ.		allowing 9m. 5ſ. for refraction.			26	5 a 19	15
19	Th							27	6 19	16
20	F							28	7 16	17
21	S	St. Thomas. Shorteſt Day						28	8 18	18
22	F	4 Sunday in Advent						27	9 21	19
23	M							27	10 23	20
24	Tu			8		52		25	11 26	21
25	W	Chriſtmas Day		7		53		24	morn	22
26	Th	St. Stephen		7		53		21	0 28	23
27	F	St. John		7		53		19	1 33	24
28	S	Holy Innocents		6		54		16	2 38	25
29	F	Sunday after Chriſtmas		6		54		12	3 46	26
30	M			6		54		8	4 54	27
31	Tu	*Silveſter*		5		55		3	6 2	28

Days	L. of D.		Day dec.		D. breaks		Tw. ends		Sun Eaſt		Cl. aft. S.		7 Stars So.	
1	8	6	8	28	5	54	6	0	4	45	10′	23″	11 a	0
6	7	56		38		56		4		43	8	20	10	38
11		50		44		58		2		41	6	5		16
16		46		48	6	0		0		40	3	39	9	54
21		44		50		1	5	59		39	1	9		32
26		46	0 inc. 2			0	6	0		40	1b. 21			10

CHRONOLOGICAL NOTES, &c. in 1793.

Dominical Letter	F	Roman Indiction	11	Eaſter Day	March 31
Golden Number	8	Septuage. Sun.	Jan. 27	Aſcenſion Day	May 9
Epact -	17	Shrove Sunday	Feb. 10	Whit-Sunday	May 19
Cycle of the Sun	10	Lent begins	Feb. 3	Advent-Sun.	Dec. 1

ECLIPSES, &c.

THERE will be four eclipſes in the courſe of this year, two of the Sun, and two of the Moon, and one of each of theſe will be viſible in Great Britain.

I. The Moon is eclipſed Feb. 25, viſible. Begins 9h. 24m. at night; middle 10h. 45m.; ends 12h. 7m.; total duration 2h. 43m.; digits eclipſed 6° 0′ on the Moon's north limb.—II. The Sun is eclipſed March 12th, at 5h. 57m. in the morning, inviſible.—III. The Moon is eclipſed, inviſibly, Auguſt 21ſt. Begins 1h. 20m. afternoon, and ends 4h 17m. afternoon.—IV. The Sun is eclipſed, viſibly, September the 5th. Begins 9h. 37m. morning; the middle 11h. 9m.; ends 12h. 44m.; digits eclipſed 9° 28′ on the Sun's north limb.

VENUS is an evening ſtar till May 27; then a morning ſtar to the end.

JUPITER is a morning ſtar till May 17; then an evening ſtar till Dec. 4; and laſtly a morning ſtar for the reſt of the year.

ANSWERS to the ENIGMAS.

1 Shadow	6 Fiſhing-net	*Suppl. Enigmas.*	
2 Feather	7 Death	1 Pair of Stays	5 Ship
3 Love	8 Rote	2 Watergruel	6 Tongue
4 Sun-flower	9 Secret	3 Spadille	7 Tree
5 Honour	10 *or Prize*, Gibbet.	4 Bottle	8 *or Pr.* Wit.

Anſwers *to the* Prize Enigma.

1. *By the Rev.* T. Baker.

Ye parent fair ones, your dear offspring guide,
In paths of juſtice, truth, and honeſty;
Teach them to ſhun all gaming, ſloth and pride,
Which bring ſo many to the *fatal tree.*

2. *Miſs* Single's *Adreſs to the Ladies.*

All goodneſs attend ye, dear ladies ſo fair;
Let vice ſtand aloof, of your virtue take care;
If once you depart from her precepts, you'll find,
Adieu to all peace and contentment of mind.
Diſſipation and pride great inducements I think,
To a bad courſe of life, when inflamed with drink;
By gradation in vice young men ſoon become callous,
Then blame our poor ſex when they come to the *Gallows.*

3. *Miſs*

3. *Miſs* Suſan Browne'*s Reſolution.*

Yes, Sir, I'll truſt in God! revere his laws,
And ever ſtrive to merit juſt applauſe:
My ſteps t'ward heaven I'll bend, what in me lies,
Then ſhall I never, never, never dread the prize.

4. *The Wiſh, by* Hilarius.

As on the *Fatal Tree* Pauſanias ſwung,
For having boldly taken Philip's life,
A diadem upon his head was hung,
Unmeet reward! by a vindictive wife.*

O may fell murderers, wherever found,
Whate'er excuſe they make of provocation,
With no ſuch recompence be ever crown'd,
Or not till in a like exalted ſtation.

* *Olympias in cruce pendentis Pauſaniæ*
Capiti coronam auream impoſuit. Juſtin.

5. *Addreſs to Youth, by Mr.* Job Ayres.

Ye ſons of Britain, and ye daughters too,
Revere your country's laws, and them purſue.
Be it your conſtant, your aſſiduous care,
By virtue's aid to ſhun the dreadful *ſnare*:
The laws of God obey; and when you die,
You ſhall be happy in eternity.

6. *Advice to Youth, by Mr.* Robert Dowden.

Unhappy ye, who ſwear and play,
Prophaning holy ſabbath-day;
Amend in time, nor bend the knee
Before the fatal *Gallows-tree.*
God's name revere! obey his laws!
So may you "ſhun the direful cauſe."

Other** ſeparate and ingenious anſwers to the Prize Enigma were given by* ***Meſſrs. W. *Anderſon, J. Bailey, Miſs Betty Boys, B. Cleypole, Wm. Cook, T. Croſbey, Cha. Dare, G. Davies, Ja. Daviſon, John Day, Miſs Nanny Dew, W. Dixon, junior. John Farraby, John Fildes, Miſs Marg. Fitzgerald, Wm. Gale, Tho. Gill, John Griffith, R. Hendy, Hiluria, Tho. Hornby, J. T. Hughes, John Jackſon, junior, Lavatrienſis, Sam. Lovatt, Hen. Mellanby, Tho. Nield, John Nuttall, Oedipus, Philander, F. Reynalds, Da. Robarts, Martinus Scriblerus, Fr. Smith, John Taylor, R. Thomas, and R. Tucker.*

GENERAL ANSWERS to the ENIGMAS.

1. *A Petition from a Negro Slave to the Ladies of Great Britain: By the Rev.* T. Baker.

Ye Britiſh fair renown'd for *Love* and truth,
Extend your pity to an Afric youth:

Who

Who in the name of millions of my race,
In your fam'd Diary humbly crave a place.
Tho' in St. Stephen's loſt, our caſe by you
May yet ſucceed,—and end victorious too:
For ladies can deep *Pits* to mountains raiſe:—
Even your bleſt ſov'reign hears when Charlotte prays.
As turns the *Sun-flower* to the god of day, 4
Man turns where virtuous beauty leads the way.
But, O! grant not a ſmile to him that's ſent,
By honeſt freemen, into parliament;
Nor lords, nor princes, gain your leaſt applauſe,
Who will not pledge their *Honour* in our cauſe: 5
This point once gain'd, you never need refrain
From the ſweet produce of the ſugar cane.
Let not our colour, nor th' extended *ſpace* 7
Leſſen your pity for our wretched race;
Caught in the *Net* of ſlavery and woe, 6
No tongue can tell the pains we undergo:
Scorch'd by the ſun;—by whips and ſcourges tore,
While the blood ruſhes from each tortur'd pore.
The wretch condemn'd on *fatal tree* to ſwing, *Pr.*
Often finds mercy from your gracious king;
But we, poor negro ſlaves, no mercy find;—
Our cruel drivers to that act are blind.
No *Feather*-beds lend us their friendly aid: 2
On blood-ſtain'd floors our mangled limbs are laid!
Theſe are but *Shadows* of that deep diſtreſs, 1
Whoſe dreadful ſubſtance negro hearts oppreſs!
But I forbear the tale whoſe horror ſeeks
To fade the *Roſes* on your lovely cheeks; 8
'Tis now no *Secret* in your happy land, 9
Where freedom reigns, with mercy in her hand.—
Know then, ye fair, by granting this requeſt,
Millions of wretched creatures you'll make bleſt;
And your petitioner will ever pray
You may find mercy on the judgment day.

2. *On the Diary and Supplement: By Mrs.* Richardſon.

Lady Di, who has ever been juſtly admir'd,
And many a young boſom with rapture inſpir'd,
Tho' her fame is ſtill riſing, and *laurels* are green, 5
Tho' ſhe's dreſs'd all in grandeur, and *Love*ly her mien, 3
Tho' her *plumage* waves high, and her *flow'rs* ſweetly *bloom*, 2, 4, 8
She's only a *Shadow* of good things to come; 1
For, her dear loving conſort muſt ever be nigh;
Or her flow'rs *hang* their heads, and her beauties all *die*: *Pr.* 7
And who, that's poſſeſs'd of a grain of good ſenſe,
Would part two ſuch friends for the trifling expence?

For my part, if poverty dwelt in my purſe,
And that, lack-a-day! is the poet's hard curſe!
Still, to *graſp* ſuch a prize, ſuch a fund of delight!
(Where ſcience, and *Secrets*, and wiſdom unite,)
I would ſpare it in ſomething—I'd wear my robe thinner;
Or once in the year, I would forfeit my dinner;
Nay, I'd faſt a whole day; and I'd do it with pleaſure,
To ———

[*To be concluded in the Supplement.*]

3. *On Spring: By Mr.* J. Walton, *of Allen Town.*

See genial Spring again revives,
The gentle zephyrs play;
Each *Shady* grove and verdant lawn,
Announce the ſweets of May.

The *Feather'd* ſongſters on the ſpray,
In ſoft melodious notes;
Or on the wing in ambient air,
Extend their little throats.

The *Neat*ly bluſhing curious *Roſe*,
In pride of nature's dreſs;
Love's *Sun*ny banks, and op'ni
flow'r,
Till *Death* its breath ſuppreſs.

Again the plaſtic hand of God,
Its *Secret* power diſplays;
Whoſe *Honour* high, and mighty arn
Excite our humble praiſe.

Then may we all, intent on good,
Avoid the direful *cauſe*,
That forfeits bliſs, and man deman
To ſatisfy the laws.

4. *The Diſappointment: By Miſs* Margaret Fitzgerald, *Old M*

One early dawn before the break of day,
Or ſhepherds roſe, or little lambkins play,
I wander'd to the neat, ſweet, ſmiling *Shade*,
With aromatic *Roſe* and privit made;
Soft gentle breezes ſounded thro' the grove,
Where cooing pigeons told their tales of *Love*;
Ah! pleaſing thought, there kind Philander, he
Avow'd his love, and *ſecret* flame for me.
Laſt night he promis'd, at this early hour,
To meet me here, in this ſweet cooling bow'r,
Or elſe on Gallows, or on *Gibbet* high,
He'd calmly *ſuffer* if he told a lie.
But e'er 'tis long the gliding hour 'll paſs:
'Tis gone! 'tis gone! and he not come. Alas!
Some fatal ill has ſure befel my lord,
His *Honour* ſure wou'd ne'er abuſe his word.
If ſo, farewell! ye ſweet perfuming *flowers*,
Ye *Feather'd* choir, *Net*, and woven bowers.
Farewell! Adieu! for you've no power to pleaſe;
Till comes Philander, my poor heart to eaſe.

5. *To Chloris: An Anacreontic: By Mr.* John Heſlop.

Hence ye heart-corroding cares,
Fly, like clouds that *ſhade* the *Sun*;
My heart for joys ſublime prepares,
E'er the race of life is run.

For me the *Roſy* wreaths entwine,
Whilſt *Love* and wine my ſoul inſpire,
Let me not at *Death* repine,
Or for that *Secret* hour enquire.

Caught by the laughter-loving dame.
Secure within her *Toils* I ſit,
Regardleſs of the *Plume* of fame,
Or the vain *Honours* of the great.

Some thro' the impious love of gold,
Have ſuffered at the *fatal tree*;
Let Plutus all his treaſures hold,
If I poſſeſs my glaſs and thee.

6. *The Laurel: By Miſs* Louiſa Amelia Harpur.

Affrighted Daphne, ancient fables ſay,
Chang'd to a laurel, baulk'd the god of day.
But Phœbus ſtill with am'rous paſſion glow'd,
And on his *Love* immortal fame beſtow'd. 3
Beneath the laurel's *Shade* is plac'd his ſhrine, 1
Its gloſſy foliage decks his brows divine.
Then Io Peans fill the expanſe of air,
And ſuperſtition's ſons her rites prepare;
From golden cenſers clouds of fragrance riſe,
And grateful incenſe mingle with the ſkies.
When fam'd Auguſtus led his troops to war,
To the bright God with zeal he made his pray'r;
With *Secret* pleaſure Phœbus heard his vows, 9
And on his arms reſiſtleſs force beſtows.
From Actium's fleet his warriors vengeance hurl'd;
Marc Antony then loſt a promis'd world.
The luxurious queen who Egypt's ſceptre ſway'd,
Whoſe fatal charms e'en high-*plum'd* chiefs diſmay'd, 2
Who like the wily fiſher ſpreads her ſnare,
And in her *Net* deluded ſhoals appear; 6
To deck her couch the Sharon *Roſes* bloom'd, 8
And Arab's choiceſt ſweets her path perfum'd.
But Cleopatra's ſenſual joys were o'er,
Subdu'd at length by Rome's imperial power.
Yet ſtill to yield, her haughty ſoul diſdains,
She ſnatches *Death*, to ſhun ſeverer pains; 7
Then grateful Cæſar to bright Phœbus rais'd
A fane, where rich with gems his image blaz'd,
In curious ſculpture, round each Parian ſhrine,
Of Ophir's gold the laurels emblems twine.
But thy beſt *Honour*, never fading tree, 5
Is, that Apollo tunes his lyre to thee;
And the bright daughters of Olympian Jove,
The ſacred nine, where wave thy *Shadows* rove.—
Ovid, ſweet bard, in his melodious ſtrains,
Thy former woe and wondrous change explains,

Of mournful *Cypreſs*, and of flowers he ſung, 10
Tells how poor *Clyteis* ceaſeleſs woos the *ſun*, 4
Reveals her face when firſt he paints the day,
And veils her aſpect at his parting ray.—
Now ceaſe my muſe, unequal to ſuch ſcenes,
Far other notes have tun'd theſe well-known themes.
But hark! Diaria does my lay recite,
My raptur'd boſom glows with fond delight,
Her tuneful bards have grac'd my humble name;
Approv'd by them, I ſeek no higher fame.

7. *To Lady* Diaria: *By Mr.* Wm. Gradidge.

Dear Di, your *Secrets* I'll diſcloſe, 9
Like ſol who opes the budded *Roſe*. 8
As *Shadows* fly before the *Sun*, 1, 4
And *rivers* to the ocean run; 2 *water gr.*
As *Lovers* to each others arms, 3
And birds from *Nets* of dread alarms: 6
As ſure as all theſe things are true,
So ſure am I to find your clue;
And *hang* me if I'll give you up, 10
Till *Death* the mortal curtain drop. 7
My *Honour* binds me firm to you, 5
So till next year——a kind adieu!

8. Hilaria's *Choice*.

I hate the city's din, and vain parade,
Where vice with pleaſure in one channel flows.
I ſlight proud *Honour*, for the rural *Shade*, 5, 1
And draw inſtruction from the *Lovely Roſe*. 3, 8

What joy to wander by the purling rill,
And trace its devious courſe the groves among;
To climb the craggy ſteep or verdant hill,
And liſten to the *Feather'd* warbler's ſong. 2

What joy when *Phœbus* quits the weſtern ſkies, 4 *Sun-fl.*
Alone by Luna's milder beams to ſtray;
Mark how the ſtarry orb ſucceſſive riſe,
And hail the glorious planets on their way.

What tho' amid this ſcene the penſive mind
Full oft is led to meditate on *Death*, 7
Who ſpreads his *Secret Net* for all mankind, 9, 6
Nor quits his deadly aim but with their breath.

Yet hope, which to the mortal cup ſupplies
Some cordial drop to help life's potion down,
Points, while we bear the *Croſs*, to happier ſkies, 10
And bids the awful tyrant loſe his frown.

9. *Deſcription of Honiton: By Miſs* Suſan Browne.

Honour'd Sir, May I hope your indulgence to gain, 5
And my town's ſituation I'll briefly explain.
'Tis a town moſt delightfully plac'd in a vale,
Where the ſwains are ſincere, and friendſhip is real:
Where the ſwift little Otter* runs bubbling along,
And the birds in full chorus, reſponſe in their ſong.—
We've a market each week, to ſupply all our wiſhes,
That's abundantly ſtock'd with fleſh, fowl, and fiſhes.
Here's Membury cheeſe, and Upottry cream,
Brought to market by laſſes proverbially clean.
Here's turkeys and geeſe, nice bacon and eggs,
With hams ready pickled, and alſo freſh legs.
Here's fruit moſt delicious, for all ſorts of taſtes;
Fine nect'rines and peaches, plumbs, apples, and grapes.
At the ſhops a profuſion of things you may get,
A *Shade*, or a *Feather*, *Love*, *Flowers*, or a *Net*. 1, 2, 3, 4, 6, 8
And Sir, tho' no *Secret* I wiſh to impart, 9
The town's pav'd *en Londre*, ſo neat and ſo ſmart.
No culprits are here, nor ſuch raſcally fellows,
As ſuffer by *Death*, on a *Gibbet*, or gallows. 7, 10

* *the river.*

10. *Ode to Philanthropy: By Mr.* Geo. Stephenſon.

Joyful I hail thee, fair celeſtial maid,
Of *aſpect ſweet*, and dew-ſurcharged eye, 8
Gliſt'ning for ſorrows not thy own.—Afraid
Of thy keen glance, foul tyranny does fly.
With Howard, thou the *priſon* oft explor'd, 6
Where mis'ry lies, by faithleſs friends forgot,
And kindly ſtrove to have their health reſtor'd,
And lent relief to eaſe their wretched lot.
'Tis thine to wipe the widows tears away,
And feed her children, weeeping alas! for bread.
To ſoothe the afflicted family whoſe chief ſtay
Is ready to be number'd with the *dead*.— 7
And what are wealth and *Honour* 'void of thee, 5
But *trifles*, fleeter than the gnomous *Shade*, 2, 1
Fair they may *bloſſom*, like a ſpreading *tree*, 4, 10
Yet ſuddenly are blaſted and decay'd.
But join'd with thee, diſpenſing bliſs around,
Like grateful ſhowers upon the thirſty plain:
Belov'd by all, with *Secret* pleaſures crown'd, 3, 9
While heavenly treaſures they are ſure to gain.

11. *On Love: By Miſs* Betty Boys.

Love it is a wounding pleaſure,
That diſturbs the tender mind,
Bought by riches nor by treaſure,
But by friendſhip good and kind.

Like a *Shadow* 'tis acreeping,
Always for a further claim,
Some can't face it without weeping,
Tho' to weep it is a ſhame.

Like to *Honour*, 'tis a feeling
That regales each noble ſage,
Tho' in thraldom ſome ſit kneeling
To the terrors of its rage.

Like a *Roſe* 'tis freſh at ſpringing,
And exhales a ſweet perfume,
Tho' in times it will be winging,
And in *Secret* hide its *plume*.

Like a *ſunflower* it ariſes,
With its glaring charms on high;
Thoſe that meet it, it ſurprizes,
And embraces with a ſigh.

Like a *Net* it catches many,
While they careleſs run aſtray;
Like the *Gibbet*, few if any
Doom'd to it can run away.

Some more ſolutions are inſerted in the Supplement, by Meſſrs. T. Browne, John Fildes, Da. Robarts, D. Rupert, and Fra. Smith. And ingenious anſwers were alſo given by Meſſrs. Aminicus, Job Ayres, Wm. Aſhton, J. Bayley, W. Bearcroft, T. Bulmer, Wm. Burdon, John Burrow, John Campbell, John Cavill, Clarinda, Miſs Marianne Davies, Jas. Daviſon, John Day, Da. Dimbleby, Rev. Mr. Ewbank, John Ferraby, Wm. Foſter, J. Fowler, Miſs Nancy F——tt, John Griffith, John Hardy, J. Hartley, Rob. Hendy, Junr. Tho. Hornby, J. T. Hughes, Lavatrienſis, Sam. Lovatt, Miſs Nancy Maſon, Henry Mellanby, Jas. Mulcaſter, Tho. Nield, John Nuttall, Tho. Oſborne, F. Reynolds, Alex. Rowe, John Savage, Jos. Scott, W. Tarmior, John Taylor, Wm. Thompſon, M. Thorpe, W. Wardley, J. Whitcombe, and Y. Z.

ANSWERS *to the* REBUSES *and* CHARADES.

Rebuſes.		*Charades.*	
Diary.	*Sup.*	*Diary.*	*Sup.*
1 Jones,	1 Baker,	1 Soundpoſt,	1 Courtſhip,
2 Nuneaton,	2 Harp,	2 Horſeleech,	2 Firelock,
3 Read, or Mead,	3 Jackſon,	3 Deathbed,	3 Friendſhip,
4 Richmond,	4 London.	4 Wanton.	4 Primroſe.

1. *The Rebuſes and Charades in both Diary and Supplement, anſwered by Mr.* Job Ayres, *of Riccall.*

Hail! lovely *Jones*, you firſt appear,
Fair Dia's page t' adorn;
Nuneaton next, in Warwickſhire,
With *Read*, bright as the morn.

Fair *Richmond* then preſents to view,
Where no life-guards are found;
And *Horſeleech* next, vile reptile thou!
In ſanguine acts renown'd.

Then awful *Deathbed* doth engage
Th' attention of my mind;
And *Wanton* thoughts at once doth change,
For thoſe of nobler kind.

On ſolemn ſubjects, ſuch as theſe,
Let *Baker* tune his *Lyre*;
Or *Jackſon*, whoſe poetic eaſe,
We conſtantly admire.

The *Primroſe* ſweet, and lily fair,
The ornaments of ſpring;
Courtſhip and love, with *Friendſhip* rare,
Of theſe I'd wiſh to ſing.

Be it my fortune, far to dwell
From city, noiſe, and ſtrife;
Retir'd in ſome rural cell,
Bleſs'd with a pleaſing wife.

Grant me, ye Gods, this one requeſt,
My wiſhes ſoar no higher;
In *Courtſhip*, love, and marriage bleſt,
Is all that I deſire.

2. *The Rebuſes and Charades, anſwered by Miſs* Betty Boys.

To gueſs your riddles, Lady Di,
My luck I ſtraight way mean to try,
And name them right if I know how.—
There's *Richmond* one, *Nuneaton* two;
There's lovely *Jones*, and *Read* ſo bleſs'd,
Two more explain, if right they're gueſs'd.
So *Death-bed*, *Horſe-leech*, *Wanton* will,
With *Sound-poſt* juſt the whole fulfil.

3. *The ſame anſwered, by Mr.* Wm. Burdon, *of Acaſter Malbis.*

While fortune ſmiles dear *Read* beware,
Of *Wantons* and the harlot's ſnare.
Let truth and reaſon be your guide,
Then take a *Jones* to be your bride.
The ways of virtue ſtraight purſue,
Till *Deathbed* thoughts appear in view.
For what avails *Nuneaton*'s power,
Or *Richmond*'s wealth in the ſad hour:
This brings, of comfort not one ray,
But, *Horſeleech* like, ſoon glides away.

4. *The Rebuſes anſwered, by Miſs* Marrianne Jones, *Southwark.*

Miſs *Jones* is the nymph that Aminicus loves,
And 'tis *Nuneaton*, Wardley muſt mean;
But *Read* has the virtues her friend moſt approves,
And at *Richmond* Eliza has been.

5. *The Enigmas, Rebuſes, and Charades, by* J. Fowler, *Rathbone Place.*

Twas in the dewy month of May,
When rural ſcenes are green and gay,
I wander'd to a ſhady grove,
And met the object of my *Love.*
Many a youth and many a maid
Have viſited this *Secret Shade*,
To tell their pleaſing tale of love,
The *Feather*'d warblers perch'd above.
Then hand in hand we fix'd our ſeat,
To view the ſweets of this retreat.
Fame, wealth, and Honour now re-
What are you compar'd to love. [move,
View the proſpect, look around,
Sure 'tis all enchanted ground.
Can *Richmond*, or *Nuneaton* ſhew
Such ſweets as theſe, or ſuch a view.
Behold the little *Wanton* lambs
Skipping round their bleating dams;
And view the lily and the *Roſe*,
Which part of this ſweet ſcene compoſe.
And view the purling ſtream run by,
With *Fiſhing-net* to catch the fry:
View the manſion fair and neat,
An elegant and beauteous ſeat.*.
And ſee upon yon riſing ground,
The windmill moving ſoftly round:
Behold the ſwain with heaved ſtroke,
Bring down the tall majeſtic *Oak.*
In this retirement, free from care,
Bloodthirſty *Leeches* come not here.
At ſeaſons fit we here can rove,
To read and walk, or talk of love;
Till days and years are paſſed by;
We then within the grave muſt lie;
In hopes a nobler ſeat to gain,
Where love and bliſs immortal reign;
The *Deathbeds* then no terrors bring,
Nor need we fear death's blunted ſting.

The ſcene; a grove fronting the ſeat of Gore Townſend, Eſq. Honington Hall, Warwickſhire.

6. *The Invitation: By Mr.* Wm. Gradidge.

Let us ramble down the *Mead*,
And on nature's carpet tread,
Let us trip to *Richmond* hill,
And of pleaſure take our fill.
Come miſs *Jones*, come mount your *Horſe*,
Chearful go-along with us,
Prithee make no greater fuſs:
Leave your *Wanton* looks behind,
To your faithful *ſwain* be kind,
Keep your vows as *Nuns* moſt pure,
Let him of your heart be ſure.
Then when death ſhall call your ſoul,
May heaven eternal be your goal.

7. *The ſame, by Mr.* John Thomas Hughes, *of Cotherſtone.*

At *Richmond* dwells a lovely fair,
With natural perfections rare,
And equal'd yet by few:
Not *Jones* or *Mead* can boaſt a face,
Adorn'd with ſuch refulgent grace,
As lovely charming Sue.

Would ſhe, compaſſionate and kind,
Alleviate my anxious mind,
I'd feel a pleaſure new;

To *Nuneaton* I'd joyful go,
And ſhare my little all below,
With lovely charming Sue.
When on her *Deathbed* ſhe reclin'd,
To ſoothe my frantic raving mind,
I'd mournful bid adieu!

The *Leech* ſhould welter in my gor
And joyful I'd exiſt no more,
But die with lovely Sue.

ANSWERS *to the* QUERIES.

QUERY I, *anſwered.*—There are different opinions on
Query.

Miſs Nancy Dent, of *Oſmanflat, ſays*

The handſome widow I think muſt beſtow the more agreeable charms
a huſband. For the old maids, being unacquainted with the affairs of
world, and perhaps ſwayed in moſt of her actions by prejudices contracted
he years of her virginity, will be a more uſeleſs piece of furniture than
handſome widow, who, by the experience of a former marriage, has beco
acquainted with the methods of pleaſing huſbands, the government o
family, the modes, maxims, and faſhions of the world, &c. &c.

The ſame anſwered, by Mr. Geo Stevenſon.

f the widow and maid be of an equal age, beauty, mental accompli
ments, &c. as I ſuppoſe are implied in the query, I ſhould be induced
ive my vote in favour of the latter. For, it is well known, that wido
are apt to draw compariſons between the conduct of their former and p
ſent huſbands, the concluſion of which is ſure to be far from favourable
he preſent. To ſay nothing of the diſagreements that may ariſe if ſhe h
children ſurviving to her former huſband.—Beſides, the very idea of a ma
joi

joined with the agreeable timidity, &c. accompanying it; alſo her love, which will be the moſt ardent, being her firſt, renders the charms of the maid more deſirable than thoſe of the widow.

QUERY 2, *anſwered.*—There are alſo different opinions on this Queſtion.

Miſs Nancy Maſon, of *Clapham, ſays*

I am of opinion that it is not a good way, for a young woman to entertain many lovers at once, if ſhe could wiſh to be ſoon married. I would therefore adviſe a young woman to entertain and keep company only with him ſhe eſteems the moſt, and abandon all the reſt; as I cannot imagine that any ſenſible man will ever think of marrying a woman that keeps company with another man.

[See other anſwers in the Supplement.]

⁂ *It is with much concern we have learnt that we have been impoſed upon with reſpect to this query, which ſome evil-minded perſon ſent to us, in the name of the amiable young lady whoſe ſignature it bears, but without her knowledge, and evidently with no good intent; as appears by the following certificate, ſigned by the miniſters and churchwardens, and others the moſt reſpectable inhabitants of the place; from which it is hoped the author of that baſe attempt will be truly aſhamed of ſuch conduct.*

CERTIFICATE.——" Sir, In the laſt year's Diary for 1791, a letter was ſent you as from Miſs Eliz. Baylie of Cheſham, on a queſtion as from her, to be put into the Diary, of which ſhe was intirely ignorant, ſo beg the favour of you to contradict it, as the names underneath are witneſſes to the contrary.

R. T. Butcher, Vicar of Cheſham,
F. Bowen, Curate,
P. Baylie and John Bailey, Churchwardens,
Nich. Scottowe,
Henry Rumſey, ſenior,
Patr. Hepburne,
George Hepburne,
Henry Rumſey, junior,
Wm. Sutthery."

QUERY 3. *Anſwered.*—Upon this Query too our Correſpondents are almoſt equally divided. Thus

Mr. J. Walton ſays, It is certainly harder to keep a woman's love, than to gain it; becauſe they are not always pleaſed with the ſame civilities, neither is a man always inclined to pay the ſame reſpect to her, that ſhe might be taught to expect.

But *Mr. John Fildes* ſays, " I think it more difficult to gain a woman's love, than to keep it when gained. Women in general are much more ſteady and ſincere in their attachments, than men; and when once a man has gained a woman's love, ſcarcely any thing can deprive him of it.

QUERY 4. *Anſwered by Mr.* Ra. Burton.

The contrivance of caſting ſingle types in metal is generally aſcribed to Schœfer, firſt ſervant, afterward partner and ſon in law of John Fuſt at Mentz in Germany; ſo that he was properly the firſt printer as well as letter founder; and ſtrictly ſpeaking, the Bible printed with moveable types in 1450, or thereabouts, was the firſt printed book. It is ſaid that Fuſt, (or Fauſtus as ſome authors call him) carried a number of his printed Bibles to Paris, and offered them to ſale as manuſcripts; but the French conſidering the number of the books, and their exact conformity to each other, even to a point, and that the beſt book-writers could not come up to ſuch exactneſs, concluded there was witchcraft in the caſe, and by indicting him as a magician, or threatening to do ſo, obliged him to diſcloſe the ſecret.

There are however other opinions. See the Supplement.

V. *or* ASTRONOMICAL QUERY, *anſwered by Mr.* W. Virgo.

The outward arc of the enlightened part of the moon's apparent diſk, is leſs than a ſemicircle at her firſt appearance after a conjunction with the ſun near her perigee; becauſe the angle under which ſhe then appears from the earth, is conſiderably greater than that under which ſhe appears from the vertex of her conical ſhadow; which poſition conceals from our view more than one half of that circle, which, in the moon, ſeparates light from darkneſs.

NEW ENIGMAS.

I. ENIGMA 752, *by Mr.* John Bayley, *Schoolmaſter.*

In days of yore, if ancient bards ſay true,
I ſhone, ye nymphs, as bright a belle as you;
Till doom'd to love; but lov'd a youth in vain;
And being ſlighted, languid grew with pain.
Henceforth, to verdant vales and groves I fled,
To ſilent caves and hollow rocks, to hide
Me from the youth, the object of my hate,
There penſive to deplore my abject ſtate.
I'm now an aerial vehicle of ſound,
Tho' within hearing never to be found.
I meet you in the woods, and on the plain,
Yet all the while inviſible remain.

I tuneful notes repeat, and warbling ſong,
Yet all perform without a pliant tongue.
Delightful themes I do with care attend,
Yet ne'er begin, tho' always make an end.——
Now ladies name me, for if fame ſays true,
My origin was from a nymph like you.

II. ENIGMA 753, *by Miſs* Betty Boys, *of Stainton Vale.*

When ſportive fancy lights afreſh the brain,
And lofty towering mounts the poet's fane,
When wit and art in chorus join and ſing;
'Tis then to birth, to light my actions ſpring.
Made to delight, to pleaſe the fair one's mind,
I am, ſhall be, and always was deſign'd.
A yearly tribute to the muſing tribe,
Wafted with pleaſure from ſome poring ſcribe,
His thoughts convey, to decorate his name,
Proclaim his merit in the page of fame.
Though to perplex them I am ever known,
And urge with anger of the gloomy frown;
For, dreſs'd in faſhion, wrapt up ſo with art,
I both can vex and pleaſe the human heart.
I've told, in mirth how jovial ruſtics ſing,
How dew-drops fall, how roſes deck the ſpring,
How ſhadows creep, how winter ſtorms prevail,
How love unſully'd breathes adown the dale;
I ſometimes too am dignify'd a prize,
A palm of honour in my author's eyes,

III. ENIGMA 754, *by Mr.* B. Cleypole, *of London.*

Ye riddling wits how comes it thus about,
That I'm ſo long from Diary's page left out?
Although no regal conſequence I claim,
Nor ſtand a candidate for pompous fame;
My uſeful worth in Britain's iſle's well known,
And to all ranks my friendly aid is ſhown.
If thoughts of gain employ the active mind,
Or ſparkling wit, with jollity combin'd;
I'm quite forgot, regardleſs of my fame,
Accounted futile, or an empty name.
But with the ſerious part of human kind,
A welcome and a kind reception find.
When the ſlow knell for ſome departed friend,
Proclaims his earthly journey at an end;
I then appear:—but tranſient is my view,
For with him bid the guilty world adieu.
Take this remark, ye giddy ſons of pride,
Who good inſtruction and advice deride,
When me in elevated ſtate you ſee,
"Memento mori" ſhould your leſſon be.

IV. Enigma 755, *by Mrs.* Hallilay.

In mother earth, with labour and great care,
Man form'd me, and he muſt my favours ſhare,
Though oft my product quadrupeds enjoy,
Untainted ſweets of life, that ſeldom cloy:
Yet I, a vaſſal for the high and low,
Expos'd to ſun and wind, to froſt and ſnow,
Uprear my hardy body, ſtraight and tall,
The arm of liberty outſtretch to all,
Expand my uſe to every ſervile gueſt,
Your brewer, waſher, ſcullion, and the reſt,
Who dead to mercy, and the tears in ſight,
Inſatiate ſometimes work me day and night,
With joy extatic ſee my wonted throws,
And force my very bowels through my noſe.——
But change the ſcene, where faſhion reigns ſupreme,
Within an edifice of great eſteem,
Near th' abby church in Bath I'm always found,
Moſt active when the glaſs goes briſkly round.
Yet ſay the muſe a ſplendid drawing room,
Where ſcandal holds the ſceptre as buffoon,
My potent name elates each anxious breaſt,
That pants for news, nor lets a neighbour reſt.
And you, ye fair, without a wiſh to rail,
If I a dark enigma ſtill prevail,
Will uſe my name in mind, or with your friend,
Till brighter thoughts expound me in the end.

V. Enigma 756, *by Mr.* J. Heſlop, *of Bowes.*

Ye myſtic bards, with diffidence I claim
To hold a place within the liſts of fame;
Yet were I plac'd according to my ſtation,
Altho' a ſlave I'd ſit o'er half the nation:
Not like an eaſtern monarch, whoſe chief view
Is to oppreſs all whom he can ſubdue;
For I'm regarded by all ranks of men,
And in return I honour them again;
But like them too, the great I venerate,
When they approach me, I reſign my ſeat.
Nor are my uſes to the great confin'd,
I oft convey a treaſure to the blind.
If croſs the main you plow the rugged deep,
"O'er head and ears," not far from you I keep.
Where'er you go, I always you attend,
Whether to walk the ſtreets, or ſee a friend,

But ſhould ſome boiſterous tempeſt rend the ſky,
If not well guarded, I from you may fly;
Upborn on airy wing, I ſweep the plain;
With hair diſhevell'd, you purſue in vain.
In noiſy crouds I at their heads appear;
But long ere this I ſee you've made me clear.

VI. Enigma 757, *by* Lavinius, *of Lancaſter.*

From whom, it matters not, nor where I ſprung,
  My worth alone may ſurely claim regard,
For oft, dear ladies, is your ſervant ſung,
  The brilliant theme of many a tuneful bard.

When midnight broods I never bleſs your ſight,
  Rarely on me will mourning Philo. call;
I claim no friendſhip with the guilty night,
  My deeds are fair, and day ſhall ſee them all.

The lab'rer ſweating with his conſtant toil,
  The weary ſchool-boy, panting to be free,
Mark my approach, and own me, as they ſmile,
  Friend of refreſhment, reſt and liberty.

Hark! round the town what various notes you hear,
  While many a diff'rent face denotes my reign,
Yet ere their clamour dies upon the ear,
  Lo! I am gone, to chear ſome other plain.

Once 'twas not ſo—but faſhion varies ſtill—
  Such tales altho' I almoſt bluſh to ſpread,—
Your beaux and belles, believe it they who will,
  I oft look on them riſing from their bed.

Direct, ſince thus I ſhine ſo great and fair,
  While o'er the globe eternally I range;
Revers'd,—but, gentle nymphs, the efforts ſpare,—
  The ſame I ſhine, nor ever know a change.

VII. Enigma 758, *by Mr.* John Nuttall, *of Bury.*

I like other creatures proceed from the earth,
But it's man, crafty man, who gives me my birth;
Born as dull as a block, I'm as ſharp as a fly;
Two noſes I've got, yet I have but one eye,
Out of which, ſtrange to tell! my bowels I ſpew,
Yet as odd as it ſeems, I proteſt it's quite true.
Two foes too I've got, who harraſs me ſore,
And ſmartly they kick me behind and before;
No ſooner I'm quit of the one, but the other
Repels me with force againſt his own brother.
Thus I'm toſs'd to and fro, yet I never complain,
For I know, deareſt ladies, it is for your gain;
So I hope in return, you my name will explain.

VIII. ENIGMA 759, *by Mr.* James Tong.

Beneath the earth's dark ſhades my parent lay,
Nor once beheld the genial light of day:
Till doom'd to quit that dark and ſable tomb,
Tho' then was ſummon'd to a fiery womb.
When I am form'd, no doubt but you'll declare
That I'm well known among the blooming fair;
Tho' not unto the fair ſex I'm confin'd,
For man imperious too I was deſign'd.
Pellucid gems do ſometimes me ſurround,
At other times bedaub'd with dirt I'm found.
When Pharoah, Egypt's king, his boon beſtow'd,
And on an Hebrew youth his bounties flow'd,
Among the various favours he conferr'd,
I as a ſacred pledge was not debarr'd.——
When the briſk ſwain with Phillis chaſte repairs,
To taſte the happineſs which Hymen ſhares,
When they attend that conſecrated ſhrine,
The ſacred rites of Hymen I combine.
With royal George in regal ſtate attend,
And like eternity I have no end.

IX. ENIGMA 760, *by Mr.* Wm. Wardley, *Maſter of the Acad*
in Fennel Street, Loughborough.

Ye fair, whoſe quick diſcerning eyes,
Can pierce enigma's dark diſguiſe,
Who can explain what has for ages
Confounded ſophs, and wits, and ſages;
Not anger ſhew, nor ſcorn expreſs,
If I appear in myſtic dreſs.
Firſt—let me ſee—I'm ſuch an elf,
I ſcarcely can deſcribe myſelf:
Of pigmy ſize I am, or tall;
My ſhape's uncouth—ſome think it
Fantaſtic robe I always wear; [droll;
For ſomething odd I muſt appear.
At wakes and fairs I ſhew my fa
With grins diſtorted and grimace;
And laugh and crack my ſmutty jok
On Tom and John, or ſuch like fol
Who ſometimes with ſome lucky
Retort upon my low-bred wit,
And fix on me the ridicule,
Which I deſign'd on them to pull
With brazen front I ſtand th' aſſa
Or nimbly thro' a circle vault:
But hold—I here muſt cloſe my t
Or I ſhall rend enigma's veil.

X. *or* PRIZE ENIGMA 761, *by Mr.* Robert Richardſon.

Search round creation's ample field,
The works of Heav'n, and eke of man,
How vain the ſearch! ſay does it yield
One hint to juſtify my plan?

Form'd by that heav'n I diſobey,
And contradict its high command;
Ere clouds bedim my meaſur'd day,
See beauty's faireſt model ſtand.

See, to my ſhrine, obſequious, bow
The little lordlings of the hour;
The monarch high, the peaſant low,
Adore my form, and own my pow'r.

Should then Olympus' gates
tend,
And ſanction'd by the nod of Jov
Some God, in ſaffron robes deſce
To point my path to bow'rs of lo

In vain for me his torch ſhall bu
In vain with ſilken cords he draw
Scornful, the proffer'd bliſs I ſpu
And fiends and furies aid my cau

Now, where the vernal ſcene
ſmil'd,
In nature's faireſt livery dreſt;

Young hope each rankling tear beguil'd,
And rapture danc'd in every breaſt.

Ah! dire reverſe! ſee tempeſts riſe!
See, op'd, the cave of black deſpair!
Green envy rolls her baleful eyes;
And rancour, link'd with cank'ring care.

As ſhuns the owl the blaze of day,
The grove's ſweet concert ſhuns to join,
So, far from pleaſure's haunts I ſtray,
To envy, and to hate, are mine.

Yet oft, in autumn's with'ring hour,
My dingy wreaths I blend with green:
Accurſed mixture! ſweet turns ſour;
And nature mourns th' empoiſon'd ſcene.

Yet, by this artifice, I ſhun
What bards had doom'd my fate below.
One faint ray marks my ſetting ſun,
And works my weal in others woe.

NEW REBUSES, CHARADES, *and* QUERIES.

I. REBUS, *by Mr.* J. Bayley, *of Middleton.*

The only two things which this life moſt annoy,
And friendſhip, and pleaſure too often deſtroy,
When join'd together, no leſs you ſhall ſee,
Than the name of a Town, the product will be.

II. REBUS, *by Mr.* J. T Hughes, *of Cotherſtone.*

Ladies! your friend is veil'd! indulgent ſmile,
And name the ſtaple of Britannia's Iſle;
Then take four-fifths of what with rage is hurl'd,
Or in the Church inſtructs an erring World:
Join theſe and hail a fam'd Diarian Bard,
Whoſe flights poetic claim your beſt reward;
'Tis he! whoſe muſe diſplays "ſuch ſtrains of love,"
As mount with rapture to the realms above.

III. REBUS, *by Mr.* Sam. Lovatt, *Aſſiſtant to Mr. T. Nield,*

The Siſters dire who clad with ſerpents are;
She turn'd into a cow by Jove's great care;
He who into a wolf by Jove was turn'd;
The nymph for whom in vain Apollo burn'd;
Thoſe bliſsful plains which happy ſouls poſſeſs;
That drunken god, who ſcarce could ride his aſs;
Th' initials join, and to you will appear,
A genius who in diary ſhines each year.

IV. REBUS, *by Mr.* Wm. Ward, *of Loughborough.*

The faithful conſort of Laertes ſon,
What you'll collect ere this your work is done,
What oft we call a fiery temper'd laſs,
And he who did great Etoecles ſurpaſs;
From hence with eaſe you'll find a well known name,
Belov'd by Britons, and enroll'd by fame.

I. CHARADE,

I. CHARADE, *by Miſs* Suſanna Browne.

My firſt, like eternity 'gins not, nor ends,
To my ſecond, we too much are prone;
My whole's a fair fruit, of a delicate taſte,
Who anſwers it—ſhe ſhall have one.

II. CHARADE, *by Mr.* John Fildes, *Schoolmaſter, Liverpool.*

My firſt is ſeen array'd in pureſt white,
And when it to my ſecond doth diſſolve;
Oft from beneath my whole appears in ſight:
Ye fair this ſeeming myſtery reſolve.

III. CHARADE, *by* Joſephus.

My firſt is a place of inſtruction you'll find,
And my next in my firſt to be taught is confin'd:
My whole in ev'ry City or Vill may be found;
And my firſt with my ſecond the kingdom around.

IV. CHARADE, *by Mr.* J. Walton.

I'th' Middle of my lucid Laſt,
  My firſt is always found:
My whole in ſplendor will appear,
  While Sol performs his round.

I. QUERY, *by Mr.* John Dalton, *of Kendal.*

What is the cauſe of the miſt which is ſometimes obſervable in a cal evening, eſpecially in ſummer, to hover over rivers, meadows, &c.

II. QUERY, *by Mr.* Rob. Hendy, *junior, of Andover.*

The origine of Valentines declare,
From what it ſprung, from whom, and when, and where.

III. QUERY, *by Miſs* Nancy Maſon, *of Clapham.*

Required an explanation of all the letters on a guinea.

IV. QUERY, *by* Myrtilla.

Is it prudent for a female to encourage the addreſſes of a ſuitor the fir time, if ſhe is well acquainted with his character.

⁂ *In anſwer to ſeveral perſons who enquire if their letters arrived, or w complain that their names are not noticed, &c. the Editor begs leave to obſerv once for all, that ſome of them never came to hand, and others are not poſt pai and therefore not received from the poſt, beſides ſeveral that arrive too late to noticed. And his correſpondents may depend on it that no letter is neglected that received, and that they are always preferred according to their merit, as far the limits of the Diary will permit.*

ANSWERS *to the* MATHEMATICAL QUESTIONS.

I QUESTION 939 *anſwered by Mr* Joſ. Facer.

PUT $x =$ the greater number, and y the leſs; then, by the queſt. $x+y=x^2-y^2$, and $x+y=\frac{x}{y}$. Divide the firſt equat. by $x+y$, gives $1=x-y$, or $x=y+1$; ſubſtitute this for x in the 2d equat. gives $2y+1=\frac{y+1}{y}$; hence $2y^2+y=y+1$, or $2y^2=1$, and $y^2=\frac{1}{2}$, or $y=\sqrt{\frac{1}{2}}=\frac{1}{2}\sqrt{2}$; and hence $x=1+\sqrt{\frac{1}{2}}=1+\frac{1}{2}\sqrt{2}$.

PROOF. $x+y=1+\sqrt{2}$.

And $\frac{x}{y}=\frac{1+\sqrt{\frac{1}{2}}}{\sqrt{\frac{1}{2}}}=1+\sqrt{2}$.

Alſo $x^2-y^2=(1+\sqrt{\frac{1}{2}})^2-\frac{1}{2}=1+2\sqrt{\frac{1}{2}}+\frac{1}{2}-\frac{1}{2}=1+\sqrt{2}$.

The ſame anſwered by Mr J. Hartley, *Fleet Street.*

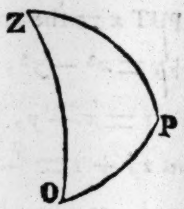
Put x and y for the required numbers: then, per queſt. $x+y=\frac{x}{y}$, and $x+y=x^2-y^2$. Tranſpoſing the laſt equat. gives $x^2-x=y^2+y$; add $\frac{1}{4}$ to both, makes the two complete ſquares $x^2-x+\frac{1}{4}=y^2+y+\frac{1}{4}$, the roots of which are $x-\frac{1}{2}=y+\frac{1}{2}$, nd here $x=y+1$; which value of x ſubſtituted in the other equa- ion, gives y and x as above.

The ſame by Mr Ja. Aſhton, *of Harrington.*

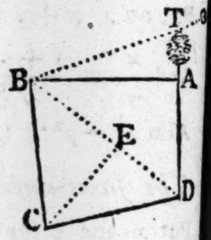
Put $x =$ the ſum, and y the difference of the required numbers; hen ſhall thoſe numbers be $\frac{x+y}{2}$ and $\frac{x-y}{2}$; hence $\frac{x+y}{x-y}$ is their uotient, and xy the difference of their ſquares; whence, by the ueſtion, $x=xy=\frac{x+y}{x-y}$; from the firſt $y=1$; then by ſubſti- ting $x=\frac{x+1}{x-1}$, hence $x^2-x=x+1$, or $x^2-2x=1$, and $x^2-2x+1=2$; extracting the root, &c. $x=1+\sqrt{2}$; hence the wo numbers are $1+\sqrt{\frac{1}{2}}$, and $\sqrt{\frac{1}{2}}$.

And according to one of theſe three ways was the ſolution given by eſſieurs Academicus, Amicus, Ayres, Baron, Brewer, Brooks, Bul- er, Burdon, Burton, Campbell, Cavill, Craggs, Cox, Croſbey, Dees, vans, Ewbank, Fildes, Ferraby, Fox, Foy, Garnett, Glanville, riffith, Hewitt, Holt, Hopkinſon, Howard. Hulland, Jackſon, ohnſon, Kinnebrook, Lawton, Leybourn, Liddell, Milner, Mitchell, ooney, Mulcaſter, Nicholſon, Nuttall, Park, Pearſon, Reed, Rod- am, Rowe, Ryley, Simpſon, Skewes, Surtees, Tarmior, Virgo, White, bitcombe, Wilkinſon, and Woolſton.

II QUESTION 940 *anſwered by Mr* Alex. Rowe, *Reginnis*.



Firſt, in the ſpherical triangle ZPO, are given $PZ = 35^\circ\ 30'$ the colatitude, $PO = 78^\circ\ 24'$ the codeclination, and the included angle at P (meaſured by $5\frac{1}{2}$ hours at 15° each hour) $= 82^\circ\ 30'$, to find the 3d ſide ZO, which by the rule at pa. 164 Dr Hutton's Math. Tables, comes out $76^\circ\ 14'$, which is the coaltitude, and therefore the altitude itſelf of the ſun is $13^\circ\ 46'$.



Then, as tang. alt. $AB\odot = 13^\circ\ 46'$: radius :: $AT = 66$ feet or 100 links : 408 links = the ſhadow's length = AB. Hence the diagonal $BD = \sqrt{AB^2 + AD^2} = 493$; and DC being $= 364$, $BC = 506$, the perpendicular CE is found $= 343$ links. Conſeq. the area of the trapezium ABCD is = 1 Ac. 1 Rood $25\frac{2}{5}$ perches, as required.

The ſame anſwered by Mr Tho. Woolſton, *Maſter of th Boarding School, Adderbury, Oxfordſhire*.

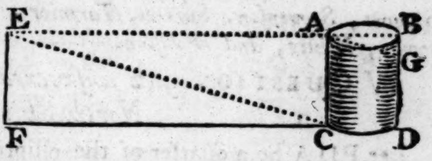
For the ſolution of this queſtion there are given, firſt, in an obli ſpherical triangle, two ſides and the angle between them, viz. t colat. $35^\circ\ 30'$, the codeclination $78^\circ\ 19'\ 25''$, and the angle at th pole, or time from noon, $82^\circ\ 30'$, to find the coaltitude, o ſun's zenith diſtance, the complement of which gives $13^\circ\ 49'$ for the altitude of his centre; and as his ſemidiameter at the ti was $15'\ 57''$, this makes the altitude of his upper limb $14^\circ\ 5'\ 3$ but by the proper corrections for refraction and parallax (the firſt bei for the given height $3'\ 44''$, and the latter $8''$), the apparent altitu will be found $14^\circ\ 9'\ 12''$. Then, by plane trigon. as tang. $14^\circ\ 9'\ 12''$ radius :: 100 links : 397 links = the ſide AB. Hence are given the ſides of the trapezium, and one angle a right angle, which agr with the firſt queſt. Dr Hutton's Menſuaration, pa. 152 2d edit. and the method uſed there the area is found = 1 Acre 1 Rood $21\frac{1}{5}$ perch as required.

According to one or other of theſe ways was the ſolution alſo give Meſſieurs Academicus, Amicus, Aſhton, Birch, Bowden, Bulmer, B don, Burton, Campbell, Cavill, Cox, Craggs, Croſbey, Dees, D bleby, Evans, Facer, Ferraby, Garnett, Goad, Griffith, Hart Heſlop, Hewitt, Holt, Hopkinſon, Howard, Hulland, Jackſon, Ki Kinnebrook, Lawton, Leybourn, Liddell, Mends, Milner, Mitch Mooney, Morrel, Nicholſon, Nuttall, Park, Pearſon, Reed, Rid Rodham, Ryley, Simpſon, Skewes, Stevenſon, Surtees, Swain, T mior, Truſwell, Virgo, Wear, Whitcombe, White, and Wilkinſo

III Question 941 *anſwered*.

This queſtion, like the laſt, may be reſolved either by allowing, n the ſun's altitude, for the ſemidiameter, refraction, and parallax, r not. And, firſt, without that allowance,

by Mr Tho. Ridout, *of Canterbury*.

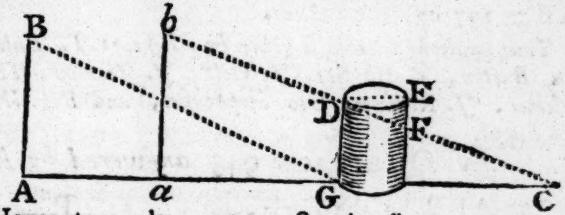


Firſt by ſpherics, as in the ſt queſt. having given the lati- ude 55°, the time April 1, 791, at 4h. 57 min. the true ltitude of the ſun's centre will e = 12° 51′ 13″. Now let BCD be the veſſel, AG the line of ſhadow within it, EF the ne, CF its ſhadow: then, by Eucl. I. 29, the alternate angles AB and ECF are equal; and by VI. 4, they are proportional. hen in the right-angled triangle ABG, are given all the angles, d the leg BG = 10¼ inches, to find AB the diameter = 44·919 ches; from which its area is found = 1584·75. Now, to find the ight; by ſim. triangles, ſay as 44·919 : 10·25 :: 14·632 : 3·3386 = 40·0632 inches = the leaſt poſſible length of the cane, and height the cylinder; then 1584·75 × 40·0632 ÷ 282 = 63490 ÷ 282 = 225·142 ale gallons.

But the exact length of the cane, and firſt diſtance from the veſſel, nnot be determined; for that length may be any thing not leſs than ·0632 inches, and then the firſt diſtance will be in proportion to the creaſed length.

2d *With that allowance, by the Propoſer Mr* Rob. Wilkinſon, *North Shields*.

This queſtion is not properly limited, owing to the omiſſion of a w words, in propoſing it, which ſhould have been inſerted thus, ut going 14·632 feet nearer", where I was juſt 1½ times the length the cane from the veſſel, "I obſerved that the &c."



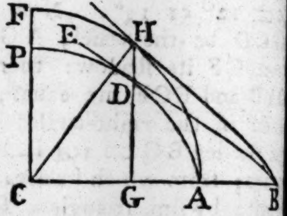
Now here are ven Aa = GC 14·632 feet, F = 10·25 in. d aG = 1½ B.

t. 55° 00′ } Hence true alt. centre 12° 52′ 41″
cl. 4 38 } Semidiam., refr. paral. 19 57
ur ∠ 74 15 } App. alt. upper limb 13 12 38

∠BGA = ∠EDF = DCG, the tang. of which call *t*. Hence, the △DEF, as *t* : radius :: EF : DE = 43·6916 diam. the △DCG, as *t* : radius :: GC : DG = 41·1918 the alt. that ·7854 DE^2 × DG ÷ 282 = 219·0312 gallons, the content. ſtly, as *t* : 1 :: AB : AG = A*a* + 1½ AB.
nce AB = 5·2965 feet, the length of the cane,
d AG = 22·5767 feet, the diſtance from the veſſel at firſt.

According to one or other of theſe ways were the anſwers alſo given b Meſſieurs Academicus, Amicus, Aſhton, Bulmer, Burdon, Burton, Campbell, Cox, Craggs, Croſbey, Dees, Evans, Ferraby, Garnett, Goad, Griffith, Hartley, Heſlop, Holt, Hopkinſon, Howard, Hulland, Jackſon, Kinnebrook, Lawton, Leybourn, Liddell, Mends, Milner, Mitchell, Mooney, Nicholſon, Park, Pearſon, Rodham, Rowe, Ryley, Skewes, Stevenſon, Surtees, Tarmior, Truſwell, Virgo, Wear, Whitcombe, White, and Woolſton.

IV QUESTION 942 *anſwered by Mr* Wm. Pearſon, *North Shields.*



Let PDA be a quarter of the elliptical meridian of Otaheite, CA = 3987 the greater ſemiaxis, or radius of the earth's equator, PC = 3970 the earth's ſemi axis, P the ſouth pole, and A the place of the perſon at the equator. Then (by Robertſon's Navigat. B. 8 Sec. 8 Prob. 2) let BE be drawn to touch the ellipſis in D, making with CA continued an angle CBD equal to the compl. of th given lat.; and with CA deſcribe the circular quadrant AF, and dra GDH parallel to CB, and join BH and CH; then BH is a tange to the circle, and BD a tangent to the ellipſis, which will (by writer on conics) both terminate at B.

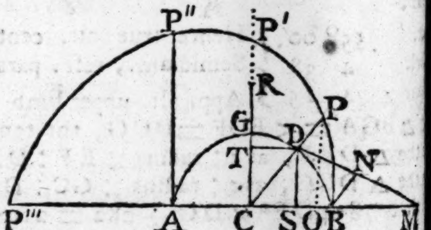
CALCULAT. As GD : GH or CP : CA :: tang. ∠ GBD : tang. GBH = 72° 19′ 15″, the comp. of the lat. on the ſphere. Then, i the right-angled triangle CHB, ſin. CBH : radius :: CH : CB = 4184·63, and CB − CA = AB = 197·63 miles, the height required.

The ſame anſwered by Amicus.

Given the angle BDG = 17° 45′, CA = CF = 3987, and CP = 3970. But GD : GH :: CP : CA :: tang. DBG : cot. HCB, and the ſecant of HCB = 4184·632 = CB, whence CB − CA = AB = 197·632 the anſwer.

True ſolutions were alſo given by Meſſieurs T. Bulmer, Wm. Burdon Ra. Burton, J. Hartley, J. Holt, J. Jackſon, Tho. Leybourn, Th Milner, J. Rodham, Geo. Stephenſon, and Rob. Wilkinſon. See al the Suppl.

V QUESTION 943 *anſwered by* Amicus.



Let ADB be the circle, BPP′P″P‴ the curve. Draw the tang. DM, perp. to which draw BN, which by the property of the circle is = SB = DP, therefore $CP^2 = CB^2 + 2CB.SB + SB^2 = CB^2 + 4CB.BN - DS^2$; flux. of arc BD is $\frac{CB}{DS}.\dot{SB}$, and flux. of the area CPB is $\frac{CP^2}{2CB}.\dot{DB} =$

$\frac{1}{2}CB.\dot{D}B + 2BN.\dot{D}B - \frac{1}{2}DS.\dot{S}B$; the fluent = ſector CDB of the circle + 4 ſegm. BDB − $\frac{1}{2}$ ſegm. DSBD = $\frac{9}{2}$ BDB + $\frac{1}{2}$ trapezium TDBC = the quadrature of BPC; and when SB = CB, this becomes $\frac{9}{2}$ quadrant CGDB − $2CB^2$ = CP′PB, and BPP′P″P‴ = $\frac{9}{2}$ the ſemicircle.

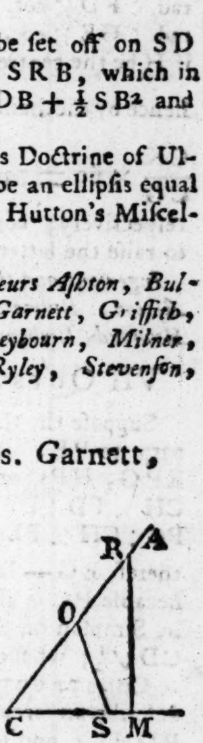
Drawing the right ordinate $PQ = y$, $BQ = x$, and $BC = a$; as CD = CB : DS = $\sqrt{2CB.SB - SB^2}$ :: CP = CD + BN : PQ = y; but CD = CB : SC = CB − SB :: CP = CB + SB : CB − QB, therefore CB : SB :: SB : QB = x, and SB = $\sqrt{ax}$, lſo by the firſt analogy $ay = \overline{a + \sqrt{ax}}\sqrt{2a\sqrt{ax} - ax}$, or $y^2 =$ $ax - x^2 + 2a\sqrt{ax}$ is the equation of the curve, which is thereore ovaliform, and a line of the 4th order.—When $x = a$, $y = 2a$ = CP; when $x = 2a$, $y = a\sqrt{2 + 2\sqrt{2}}$ = AP″; when $x = 4a$ = BP‴, $y = 0$: when y is a maximum, DS.CP is a max. and SB = $\frac{1 + \sqrt{3}}{2}$CB, or $\sqrt{x} = \frac{1 + \sqrt{3}}{2}\sqrt{a}$.

If SB, inſtead of being ſet off on CD produced, be ſet off on SD roduced from D to R, the quadrature of the curve SRB, which in his caſe is a conic ellipſis, will evidently = ſegm. SDB + $\frac{1}{2}SB^2$ and rea RDBR = $\frac{1}{2}SB^2$ or ſtrictly quadrable.

If SB be ſet off from D towards S, as in Kirkby's Doctrine of Ulmators, the curve, which he calls *piriformis*, will be an ellipſis equal d ſimilar to the other; as may be ſeen at large in Hutton's Miſcelny, and the quadrature = SDB − $\frac{1}{2}SB^2$.

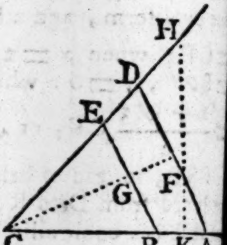
True anſwers to this queſtion were alſo given by Meſſieurs Aſhton, Bul- r, Burdon, Cox, Craggs, Dees, Ferdinando, Garnett, Griffith, olt, Howard, Johnſon, Kinnebrook, Lawton, Leybourn, Milner, ooney, Nicholſon, Pearſon, Rodham, Rowe, Ryley, Stevenſon, hite, and Wilkinſon.

VI QUESTION 944 *anſwered by Mr* Jos. Garnett, *jun. Richmond.*



Let CA repreſent the ladder, R its centre of gray, and OS a prop or ſupporter; from R let fall M perpend. to CS the plane of the horizon; and t OS = a, CR = r, the weight of the ladder = w, and CM = x; then, by art. 450 Simpſon's uxions, the poſition of the prop OS, to ſuſtain e ladder with the greateſt eaſe, is when the angles O and S are equal; and the weight ſuſtained by the d prop $\frac{2wx}{a}\sqrt{\frac{r - x}{r + x}}$; whence, when a maximum is ad $x =$ $\frac{\sqrt{5} - 1}{2}r$; which being written for x in the ſaid expreſſion for the weight on the prop, it becomes $\frac{rw}{a}\sqrt{\frac{28-12\sqrt{5}}{1+\sqrt{5}}}=\frac{rw}{a}\sqrt{10\sqrt{5}-22}$ $=$ (in the preſent caſe, r being $=12$, and $w=60$) $\frac{720}{a}\sqrt{10\sqrt{5}-22}$ where a being ſeverally expounded by 7 and 6, we get 61·7725lb, and 72·0679lb, for the greateſt weights ſuſtained by A and B re-ſpectively. Now as 6 : 5 :: 72·0679 : 60·0566lb, the weight tha A can ſuſtain with the ſame eaſe as B can 72·0679; but A ha 61·7725lb to ſuſtain; theref. he cannot raiſe the ladder with ſo grea eaſe as B. *And exactly in the ſame manner was the ſolution given b Mr Da. Kinnebrook, jun. of Norwich.*

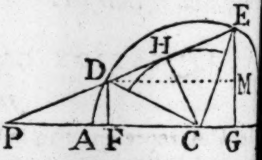
The ſame anſwered by Mr. Wm. Burdon, *Acaſter Malbi*



It is ſhewn at art. 450 of Simpſon's Flux. that the ladder CH will make an angle with the horizon of 51° 50′, when the men AD and BE have the greateſt weight to ſuſtain; alſo CB $=$ CE, and CA $=$ CD. Then, as rad. : FD :: cot. FCD : CF $=$ 7·2026, and rad. : GE :: cot. GCE : CG $=$ 6·1736 : now if H be the centre of gravity, CK $=$ 7·4154; hence by mechan. $\frac{CK}{CF}\times 60 = 61{\cdot}7727$lb, and $\frac{CK}{CG}\times 60 = 72{\cdot}0688$lb, the greateſt weight ſuſtained by A an reſpectively; conſequ. B's ſtrength to A's ought to be as 6 to 5·1 to raiſe the latter with as much eaſe.

Ingenious and true ſolutions were alſo given by Meſſieurs Amicus, J Aſhton, Bulmer, Craggs, Croſbey, Cullyer, Ferdinando, Hew Howard, Leybourn, Nicholſon, Park, Rodham, Stevenſon, and Whi

VII QUESTION 945 *anſwered by Mr* John Howard.



Suppoſe the thing done, and CH drawn perp. to PE. Then, by the ſim. tri. EPG, HPC and DPF, we have PC : CH :: PD : DF $=$ CH . PD $\div$ PC, and PC : CH :: PE : EG $=$ CH . PE $\div$ PC, theref. EG $-$ DF $=$ CH . $\overline{PE - PD}$ $\div$ PC $=$ CH . DE $\div$ PC; because PC is given, CH . DE, or the triangle DCE a max. wh by Simpſon on the Max. and Min. prop. 4, will be ſo, when CH CD$\sqrt{\frac{1}{2}}$; whence this

CONSTRUCTION. With radius CH $=$ CD$\sqrt{\frac{1}{2}}$, and centre deſcribe an arch; to which, from the point P, draw the tan PDHE; and the thing is done.

Nearly the ſame was the geometrical ſolution given by Meſſieurs Ami Aſhton, Cavill, Craggs, Ferdinando, Garnett, Kinnebrook, Law Leybourn, Surtees, and White. And it was conſtructed as well f given quantity, as for a maximum, by Mr John Rodham.

Algebraical Solution by Mr Jacob Park.

Draw DM parallel to PC. Put $PC = a$, $CH = x$, CD or $CA = r$, then is $DE = 2\sqrt{r^2 - x^2}$; but, by the ſim. tri. PC : CH :: DE : EM; that is $a : x :: 2\sqrt{r^2 - x^2} : \frac{2x\sqrt{r^2 - x^2}}{a} = EM$ a max. therefore $r^2x^2 - x^4 =$ a max. the flux. of which made $= 0$, gives $r^2x - 2x^3$, or $r^2 = 2x^2$, and hence $x = r\sqrt{\frac{1}{2}}$.

Cor. Since $\sqrt{\frac{1}{2}}$ is the ſine of 45°, therefore the angles CDH and CEH are each equal to 45°; and alſo the angle DCE is a right one.

And thus was the algebraical ſolution given by Meſſieurs Academicus, Aſhton, Bulmer, Cox, Dees, Ewbank, Facer, Hartley, Mitchell, Mooney, Nicholſon, Pearſon, Ryley, Stevenſon, and Wilkinſon.

VIII Question 946 *anſwered by Mr* Chr. Cox, *Dublin.*

A column of quickſilver 30 inches high and 5 in diameter is $5^2 \times 30 \times \cdot 7854 = 589 \cdot 05$ inches, which, at 8·102 oz. each inch, weighs 4772·48 oz. or 298·28 lb. which is the preſſure of the atmoſphere alone, and equal to the elaſticity of the air in its natural ſtate; to this adding the 100lb. gives 398·28 lb. the whole external preſſure. Then, as the ſpaces which a quantity of air poſſeſſes, when under the influence of different preſſures, are in the reciprocal ratio of thoſe preſſures, it will be as 398·28 : 298·28 :: 10 feet or 120 inches : 89·87 inches, the ſpace occupied by the air; and therefore $120 - 89 \cdot 87 = 30 \cdot 13$ inches, is the diſtance ſought.

The ſame anſwered by Lt. T. H. Fenwick, *of Royal Artil.*

Let $x =$ the length required;

Then is $10 - x$ the ſpace in which the air is confined.

And if $a = 298 \cdot 16$ lb. the preſſure of the atmoſphere on a circle whoſe diameter is 5 inc. (the caliber of the gun) the barometer ſtanding 30 inches high;

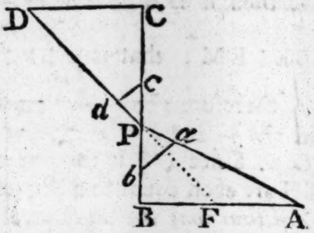
Then is $a + 100$ lb. the force which retains the air in the abovementioned ſpace; and theſe forces being reciprocally as the ſpaces, therefore $a : a + 100 :: 10 - x : 10$;

and hence $x = \frac{1000}{a + 100} =$ 2 feet 6 inches.

Observation. If f denote any force in general, then will $x = \frac{10f}{a + f}$ be the diſtance the ſpunge can be puſhed down by the force f; which being always leſs than 10, it is evident that the force may be increaſed continually, without ever being able to get the ſpunge intirely home; if the vent be ſtopped, and no air eſcape by the ſide of the ſpunge.

Mr. Rodham gave a general ſolution for the velocity and time of introducing the ſpunge in any given ſpace, as well as determined the greateſt ſpace it can go. And other true and ingenious ſolutions were given by Meſſieurs Academicus, Amicus, Aſhton, Bulmer, Craggs, Dalton, Dixon, Garnett, Griffith, Hewitt, Holt, Howard, Kinnebrook, Lawton, Mooney, Nicholſon, Ryley, Stephenſon, and White.

IX QUESTION 947 *anſwered by* Amicus.



As this has been done ſo many times before, the following new and eaſy method is given for the ſake of variety.

Let P be the point where the river is to be croſſed, and becauſe CB is given, cP the variation of $CP = bP$ that of BP: let fall cd and ba; then becauſe $\frac{1}{3}DP + \frac{1}{2}AP$ is a minimum, $\frac{1}{3}dP = \frac{1}{2}aP$; but $dP : aP :: \text{ſin.}\,Pcd = PDC : \text{ſin.}\,Pba = PAB :: \frac{1}{2} : \frac{1}{3}$, or $\frac{2}{3}$ ſin. $PDC =$ ſin. PAB; and hence, from the common mathematical tables, by a few trials, CD being 5, $AB = 7$, and $BC = 20$, PB is found $= 5{\cdot}670405873$.

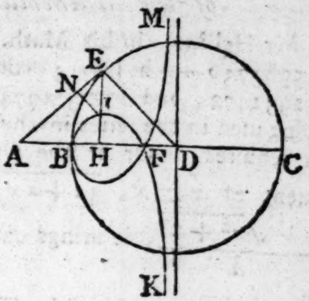
Nearly in the ſame manner was the geometrical ſolution by Ferdirando, and by Mr Rodham, who farther obſerves, that, having found $m(2) : n(3) ::$ cos. BPA : cos. CPD or :: ſin. A : ſin. D or ſin. F :: PF : PA, where DP is produced to F, then the algebraic ſolution may be thus: Put $x = BP$, $a = AB$, $b = CD$, and $c = BC$; then, by ſim. tri. $PC : PB :: CD : BF = \frac{bx}{c-x}$; hence $\frac{b^2x^2}{(c-x)^2} + x^2 (PF^2) : a^2 + x^2 (PA^2) :: m^2 (4) : n^2 (9)$; whence, putting $d = n^2 - m^2 = 5$, is obtained $dx^4 - 2cdx^3 + \overline{n^2b^2 + c^2d - m^2a^2}\,.\,x^2 + 2cm^2a^2x - m^2a^2c^2 = 0$; where $x = BP$ will be found $= 5{\cdot}6704$ miles.

The ſame by Mr Kinnebrook, *jun. Norwich.*

Put $a = 7 = AB$, $b = 5 = DC$, $2s = PC + PB$, and $2x = PC - PB$, then $PC = s + x$, and $PB = s - x$; now by Eucl. 47 of I, $PD = \sqrt{b^2 + \overline{s+x}|^2}$, and $PA = \sqrt{a^2 + \overline{s-x}|^2}$; whence $\frac{1}{3}\sqrt{b^2 + \overline{s+x}|^2} + \frac{1}{2}\sqrt{a^2 + \overline{s-x}|^2}$ or $2\sqrt{b^2 + \overline{s+x}|^2} + 3\sqrt{a^2 + \overline{s-x}|^2}$ is to be a minimum; which in fluxions gives $x^4 - 194\frac{1}{5}x^2 - 1684x = -10580$, hence $x = 4{\cdot}3296$, and conſeq. $PC = 10 + x = 14{\cdot}3296$, and $PB = 10 - x = 5{\cdot}6704$.

True and ingenious ſolutions were alſo given by Meſſieurs Academicus, Aſhten, Baron, Bengal Officer, Brady, Brewer, Burdon, Cavill, Cox, Craggs, Croſbey, Dees, Evans, Ewbank, Fenwick, Fox, Garnett, Griffith, Hartley, Hewett, Hewitt, Holt, Howard, Hulland, Lawton, Leybourn, Liddell, Millner, Milner, Mooney, Mulcaſter, Nicholſon, Park, Pearſon, Reed, Rowe, Ryley, Simpſon, Skewes, Surtees, Truſwell, Whitcomb e, and Wilkinſon.

X QUESTION 948, *anſwered by Mr* S. Woolcott.



Let AE be a tangent drawn to the circle at E, meeting the diameter CB produced in A; divide the tangent in N in the given ratio of m to n, and erect the perpendicular NI interſecting the ordinate EH in I; then I will be a point in the curve. Put the radius of the circle $BD = a$, $DH = x$, and $HI = y$. Then, by the property of the circle, $HD : HE :: DE : AE = \frac{a}{x}\sqrt{a^2 - x^2}$: but $AN : NE :: m : n$, or $AE : NE :: m + n : n$, therefore $NE = \frac{n}{s}AE = \frac{na}{sx}\sqrt{a^2 - x^2}$, putting $m + n = s$; alſo, by the ſim tri. NEI and HDE, $HD : DE :: NE : EI$, or $x : a :: NE : \frac{a}{x}NE = \frac{na^2}{sx^2}\sqrt{a^2 - x^2} = EI$; theref. HI or $y = \sqrt{a^2 - x^2} - \frac{na^2}{sx^2}\sqrt{a^2 - x^2} = \frac{sx^2 - na^2}{sx^2}\sqrt{a^2 - x^2}$ the equation of the curve.

Hence, when $x = a\sqrt{\frac{n}{s}}$ or $a\sqrt{\frac{n}{m+n}}$, then $y = 0$; and when $x = a$, then $y = 0$ alſo; but when $x = 0$, y is infinite. Let the ratio of m to n be what it will, the curve will have a nodus between B and D, and F its punctum duplex. and paſſing through which it branches out into two infinite legs FK and FM, to which a perp. drawn through D, the centre of the circle, will be an aſymptote. If $m = 3n$, then $x = \frac{1}{2}a = BF$ the diam. of the nodus, and the curve is Newton's 41ſt ſpecies; but if $m = 0$, the nodus becomes a cuſpis, and the curve is the ciſſois veterum, or the 42d ſpecies.

The ſame by Mr Joſeph Garnett, jun.

After giving a ſolution and obſervations, exactly as above, this gentleman adds, The area of the curve may be eaſily found. For the fluxion of the area BIH is $HI \times B\dot{H} = y\dot{x} = \dot{x}\sqrt{a^2 - x^2} - \frac{na^2}{s} \times \frac{\dot{x}\sqrt{a^2 - x^2}}{x^2}$, the fluent of which is eaſily found from the circle.

Ingenious ſolutions were alſo given by Meſſieurs Amicus, Wm Aſhton, J. Craggs, Ra. Dees, J. Howard, Wm. Johnſon, Wm. Law-on, J. Nicholſon, J. Rodham, J. Ryley, Geo. Stevenſon, and Tho. White.

XI QUESTION 949, *anſwered by Mr* J. Holt, *Maſter of the Mathematical School, Mancheſter*.

Mr Hellins, in his Math. Eſſays, p. 108, determins $d = a^2 \times (\cdot 5965736 - \frac{1}{2}\,\text{h. l.}\,a.)$; conſequently when $d = 0$, then $\text{h. l.}\,a = 1\cdot 1931472$, and $a = 3\cdot 297446$; which value of a, and 100 for x, being uſed in the ſeries in the queſtion, z comes out $= 5025\cdot 03748$ as required. Or if the ſame values be ſubſtituted in the correct fluent of $\dot{z} = \dot{x}\sqrt{aa + xx}$, viz. $z = \frac{1}{2}x\sqrt{a^2 + x^2} + \frac{1}{2}a^2 \times \text{h. l.}\,\frac{x + \sqrt{a^2 + x^2}}{a}$, it brings out the ſame value of z.

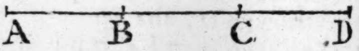
The ſame by Mr Thomas White, *of Dumfries*.

I am not certain whether this can be deemed a fair queſtion. The author is indeed named, but unleſs the book be at hand, the method of determining the correcting quantity d, is not very obvious; it is in this alone that the difficulty of treating the queſtion conſiſts, ſince the value of a muſt be determined upon the hypotheſis of $d = 0$, before any attempt be made to ſum the ſeries; and therefore the propoſer has an advantage which many muſt want. Mr White then makes out a ſolution by another ſeries according to the method uſed at pa. 426 of M. Couſin's Leçons de Calcul Differential, &c.

And according to the former of theſe methods was the anſwer given by the Rev. Mr Hellins.

This queſtion was alſo anſwered by Meſſieurs Amicus, Dalton, Ferdinando, J. Griffith, J. Howard, D. Kinnebrook, and J. Ryley.

XII QUESTION 950, *anſwered by Mr* Chr. Cox, *Dublin*.



It is evident, from Eucl. II 5, that, wherever the point C is, the rectangle AB × BC will be the greateſt, when AC is biſected in B, and for the ſame reaſon the rectangle BC × CD will be the greateſt when the line BD is biſected: therefore when the given line AD is triſected, the ſum of the rectangles of the parts will be a maximum. Mr Cox alſo brings out the ſame concluſion algebraically.

The ſame by Mr W. Virgo.

It is demonſtrated by Mr Simpſon, in his Geometry, Theor. I. on the Max. and Min. that, of all the rectangles that can poſſibly be contained under the two parts of a given right line, any how divided, that will be the greateſt whoſe ſides are equal to each other. Hence it follows, that the ſum of all the rectangles, whatever be their number, under all the parts of a given right line, can only be a maximum when all thoſe parts are equal to each other.

And nearly in the ſame manner was the geometrical ſolution given by Meſſrs. Amicus, Dalton, Fox, Garnett, Goad, Holt, Kinnebrook, Lawton, Mooney, Pearſon, Redham, and White.

Algebraically by Mr J. Nicholſon.

Put $a = AD$, $x = AB$, $y = BC$, and $z = CD$; then is $xy + xz + yz =$ a max. and $x + y + z = a$; hence $z = a - x - y$, which ſubſtituted in the max. gives $ay - y^2 + ax - x^2 - xy =$ a max. This in flux. making firſt y conſtant, and then x conſtant,

$$\text{gives } a\dot{x} - 2x\dot{x} - y\dot{x} = 0 = a - 2x - y,$$
$$\text{and } a\dot{y} - 2y\dot{y} - x\dot{y} = 0 = a - 2y - x;$$

putting theſe laſt two equal, gives $x = y$. And in the ſame manner $x = z = y$, ſo the parts are all equal.

And nearly in the ſame manner was the algebraical ſolution given by Meſſieurs Academicus, Aſhton, Brady, Bulmer, Burdon, Cavil, Cox, Craggs, Croſbey, Dees, Ewbank, Fenwick, Ferdinando, Griffith, Hartley, Hewitt, Howard, Hulland, Liddell, Maſeres, Mooney, Park, Reed, Rowe, Ryley, Sampſon, Simpſon, Skewes, Stevenſon, Surtees, Truſwell, and Wilkinſon.

XIII QUESTION 951, *anſwered by Mr John Dalton, Kendal.*

By the word noon, in this queſtion, I ſuppoſe is meant 12 o'clock, the clock being duly regulated. It is well known that at the ſummer ſolſtice the clock is before the ſun, and conſequently the equation of time is then to be added to the time per clock, or mean time, to reduce it to apparent time; hence, the equation of time being upon the increaſe, the afternoons are longer than the forenoons, and are increaſing on that account. And as the days decreaſe very ſlowly after the ſolſtice, by the ſlow decreaſe of the declination, and the equation of time increaſing faſt, the length of the afternoons will continue to increaſe after the ſolſtice, till the decreaſe of the lengths of the days balances the equation of time. Hence the calculation will be eaſy to any one furniſhed with a Nautical Ephemeris. Having the lat. and ſun's declination, the length of the day is had by finding the ſun's aſcenſional difference; thus, as radius : tang. lat. 59° 56′ :: tang. declin. : ſin. of aſcenſional difference. Hence we have

June	Sun's Decl.	Aſcen. Dif.	Semi-day. *h. m. s.*	Eq. time.	Afternoon. *h. m. s.*
20	23° 27′ 48″	48° 34′ 18″	9 14 17·2	1′ 12″·7	9 15 29·9
21	23 27 43	48 34 16	9 14 16	1 25 ·8	9 15 41·8
22	23 27 13	48 32 30	9 14 10	1 38 ·5	9 15 48 8
23	23 26 19	48 29 42	9 13 58·8	1 51 ·7	9 15 50·5
24	23 25 0	48 25 37½	9 13 42·5	2 4 ·5	9 15 47·

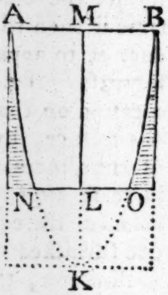
From which it appears that the afternoon of the 23d of June will be longeſt of any in the year at that place.—*And nearly in this manner was the ſolution by Mr. Holt.*

The queſtion was alſo anſwered by Meſſieurs Amicus, Griffith, Sanderſon, and Wilkinſon.

XIV QUESTION 952, *anſwered by Amicus.*

I do not ſee that any thing can be determined with preciſion, concerning this phyſical queſtion, till the water has acquired the ſame rotatory velocity as the veſſel, which, if we ſuppoſe to be covered cloſe, till the water has acquired that circulatory velocity; then, the cover being taken off, it will fall in the middle, riſe at the edge of the veſſel, and fly off in the direction of tangents to its top, forming itſelf within into a hollow curved ſurface, till, its bounding curve being every where perp. to the direction of the ſingle force compounded of gravity and the centrifugal one; when no one particle of the ſurface having any tendency either to riſe or fall, it muſt reſt in equilibrio; the effluent horizontal velocity continuing uniform till then, but the quantity thrown out per ſecond diminiſhing till it vaniſhes, no more water can be forced over. And, by Bernoulli's Hydrodynamica ſect. 11th, if $g = 32\cdot2$ the force of gravity, the water in that circumſtance will form itſelf into the hollow ſurface of a paraboloid, whoſe equation is $gx = 800y^2$; and at the top of the veſſel, y being $= 1$, $x = 800 \div g = 24\cdot84472$, and at the bottom of the veſſel, when $x = 20\cdot84472$, $y = \cdot91597$ the radius of the circle left dry at the bottom of the veſſel: hence it will eaſily be found that $\cdot9195$ of the whole quantity of water will flow over.

The ſame anſwered by Mr Geo. Stevenſon, *Howdon*.



It is proved at Schol. 1ſt to the ſolu. of queſt. 797 in the Ladies' Diary for 1783, or queſt. 14 Gent. Diary for 1789, that the curve A K B will be a parabola, or the concave ſurface of the water a paraboloid. The equation there given is $n^2fx = 2p^2y^2$, where n is the time of one revolution in ſeconds, $f = 32\frac{1}{6}$, $p = 3\cdot1416$, x the abſciſs of the parabola, and y its ordinate. In the preſent caſe n being $= 2py \div 40 = 157$, and $y = AM = 1$, theref. $x = KM = 2p^2y^2 \div n^2f = 24\cdot87$, which being greater than the depth of the veſſel, a part of the bottom will be dry, and the empty part of the veſſel will be the fruſtum of a paraboloid, whoſe height M L is 4 feet, and its content $11\cdot556$ feet $= 70\cdot82$ ale gallons, the quantity which will overflow.

The ſame by Mr John Ryley, *of Leeds*.

When the veſſel is put in motion, it is evident that every particle of the fluid will be agitated, and endeavour to recede from the axis of the veſſel; and while part is forced over, the concavity will continually increaſe till an equilibrium obtains, and then the water will remain permanent.——Now let A K B be a ſection of the cavity through the axis K M; and put $KL = x$, $LN = y$, $KN = z$, $32\frac{1}{6} = m$, $3\cdot1416 = p$, and the time of one revolution in ſeconds or $2p \div 40 = n$: then, by the reſolution of forces, $m\dot{x}\dot{z}^{-1}$ is the force of gravity in direction of the curve at N; and $4p^2yn^{-2}$ the centrifugal force at N in the direction L N, and the ſame in direction of the curve is $4p^2y\dot{y}n^{-2}\dot{z}$; and theſe two oppoſite forces muſt be equal in the caſe of an equilibrium. Hence then, $m\dot{x}=4p^2y\dot{y}n^{-2}$ or $mn^2\dot{x}=2p^2y\dot{y}$, the fluent of which is $mn^2x=4p^2y^2$, the equation to a parabola. Now when x becomes $=$ KM, then $y=1$, and $x=2p^2\div mn^2=800\div m=24{\cdot}8704$. Alſo by the nature of the curve $KL : KM :: AM^2 : LN^2 = {\cdot}83917$, and the content of the fruſtum ABON is $=11\frac{5}{9}$ very nearly, which is the quantity of water that runs over, and is only one foot leſs than the content of the veſſel, ſo that there will be only one foot of water left in it.

Other ingenious anſwers were given by Meſſ. Griffith, Holt, Howard, Kinnebrook, Lawton, Mudge, Nicholſon, Park, Rodham, Sampſon, and White.

XV *or* PRIZE QUESTION *anſwered by Mr* Thomas Leybourn.

The ſum of n terms of the propoſed ſeries 1^2, 2^2, 3^2, &c, it is well known is equal to $\frac{1}{6}n.n+1.2n+1$, which is to be a ſquare number greater than 1 by the queſtion. Put $2n+1=z^2$, then will $n=\frac{z^2-1}{2}$, and hence $\frac{1}{6}n.n+1.2n+1=\frac{z^4-1}{24}.z^2$ a ſquare n°. greater than 1. Suppoſe it $=y^2$, then $z^4=24y^2+1=$ a ſq. n°. $=$ ſuppoſe $\overline{xy-1}^{\,2}=x^2y^2-2xy+1$, then will $y=\frac{2x}{x^2-24}$ which muſt be a whole poſitive number; to produce which, x muſt be either 5 or 6, and nothing elſe; but it muſt not be 6, for then y would be only 1, whereas it ought to be greater than 1. The value of x can therefore be nothing but 5; for then this gives $y=10$, $z^4=2401$, or $z^2=49$, and $n=24$ the only poſſible number of the terms; and thence $\frac{1}{6}n.n+1.m+1=4900=70^2$ the ſquare ſought.

The ſame anſwered by Mr Charles Brady.

It is well known that $1^2+2^2+3^2$ &c. - - - $+n^2=\frac{1}{6}n.n+1.2n+1$, which muſt be a ſquare number; therefore put $6r^2=n$, which ſubſtituted above gives $r^2.6r^2+1.12r^2+1=$ a ſq. and conſequently $6r^2+1.12r^2+1=72r^4+18r^2+1=81r^4+18r^2+1-9r^4=\overline{9r^2+1}^{\,2}-\overline{3r^2}^{\,2}$ muſt be a ſquare number; where it is plain that $9r^2+1$ and $3r^2$ muſt be the hypothenuſe and one leg of a right-angled triangle; therefore take the other leg $=9r^2-1$; then will $\overline{9r^2+1}^{\,2}-\overline{9r^2-1}^{\,2}=3r^2$, which gives $r=2$; and hence $n=6r^2=24$ the n°. of terms of the ſeries.

We are particularly ſorry that our limits will not permit us to inſert the general inveſtigations of our learned correſpondents Amicus and Mr John Dalton, as well as the many other very ingenious ſolutions to this queſtion by Meſſ. Bengal Officer, Tho. Bulmer, John Cavill, Chr. Cox, Dawders, Ra. Dees, J. Ewbank, Jos. Garnett, J. Holt, J. Howard, Da. Kinnebrook, Wm Lawton, Mic. Mooney, Jus.

Mulcaſter, J. Nicholſon, Wm. Pearſon, Peter Phelan, John Rodham, Alex. Rowe, John Ryley, J. Sampſon, Tho. White, Tho. Whiting, and Rob. Wilkinſon.

NEW QUESTIONS.

I QUESTION 954, *by Mr* Tho. Nield, *Maſter of a Boarding-School, Hawarden.*

There are three numbers in continued proportion, the product of which is 4096, and the ſum of the two extremes is 68. The double of the mean is my age in years, half the leaſt extreme is the month; and one-fourth of the greateſt the day of the month that gave me birth. Required my age, with the month and day in which I was born.

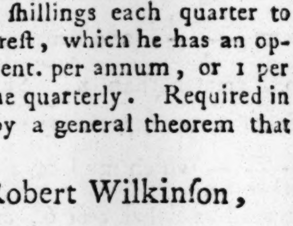
II QUESTION 955, *by Mr* J. Hartley, *Fleet-Street.*

A perſon is indebted 250 l. who by induſtry has ſaved 8 l. 5 s. and promiſes his creditors, he will add five ſhillings each quarter to the above 8 l. 5 s. placed at compound intereſt, which he has an opportunity of doing at the rate of 4 l. per cent. per annum, or 1 per cent. per quarter, the intereſt becoming due quarterly. Required in what time will the debt be diſcharging, by a general theorem that will anſwer the ſame for as many millions.

III QUESTION 956, *by Mr* Robert Wilkinſon, *North-Shields.*

Having to ſurvey a field in form of a trapezium (which I was not allowed to enter) at one end of its longeſt ſide I found that the angle ſubtended by the oppoſite corner of the field and that ſide was equal $42^\circ\ 28'$, and I was informed the ſaid oppoſite corner was a right-angle; going now further off in the direction of the ſaid ſide to 520 links from my former ſtation where I found the oppoſite and longeſt ſide would meet and form an angle of $30^\circ\ 16'$, from whence my diſtance to the neareſt end of the ſaid oppoſite ſide was 730 links. Required the area of the field.

IV QUESTION 957, *by Mr* B. Benſon.



In the rectangular parallelogram ABCD, there is given AB = 26, and AD = 39; to find the poſition of the right line EFG = 65, ſuch that the right-angled triangle FGD, whoſe area is required, may be equal the ſpace ABEF.

V QUESTION 958, *by Mr* Mich. Mooney, *Dublin.*

In a certain north latitude laſt ſpring when the ſun's declination was double his altitude at ſix; the difference of the ſines of his meridian altitude and midnight depreſſion was equal to half the ſine of the latitude. Quere the time and place.

VI QUESTION 959, *by Mr* James Aſhton, *Harrington*.

It is required to reſolve queſtions 58 and 59, at page 315 of Hutton's Compendious Meaſurer, without the aſſiſtance of Algebra.

VII QUESTION 960, *by Mr* John Liddell, *Hovingham*.

Admit the latitude of Hovingham to be 54° 10′, from which Thirſk lies 18 miles due weſt, and Malton 9 due eaſt; now this 27 miles is the ſide of a ſpherical triangle, the oppoſite angular point of which is due eaſt of Thirſk and upon the meridian of Malton. Quere the latitudes of the ſaid places, and the number of acres contained in the ſpherical triangle, ſuppoſing the circumference of the earth to be 25000 miles.

N. B. This queſtion has appeared a paradox to ſome, to remove which, it is here propoſed.

VIII QUESTION 961, *by Mr* Tho. Woolſton, *Adderbury*.

Being out one day in the ſpring, 1792, ſurveying ſome land, ſome of my pupils were deſirous of knowing the diſtance of a ſteeple which we ſaw a conſiderable way off, in the north-eaſt quarter: to gratify them, I fixed my theodolite, and having ordered a mark to be ſet up for a ſecond ſtation, in a convenient place, which bore exactly NW$\frac{1}{4}$W from us, I obſerved that the ſteeple and the mark ſubtended an angle of 103° 52′, and the diſtance between the two ſtations meaſured 3650 links; and upon fixing the inſtrument at the 2d ſtation, when I had adjuſted the ſights to the bearing of the ſteeple, I obſerved the ſhadow of the ſight exactly to coincide with the direction of the index; I therefore immediately took the ſun's altitude, and found it $39^\circ\ 49'\frac{1}{2}$. The declination at that time was 18° 9′ north, and the latitude of the place 52° 5′ north. Required from hence, the time when the obſervation was made, and the bearing and diſtance of the ſteeple from our 2d ſtation.

IX QUESTION 962, *by Mr* John Ryley, *Leeds*.

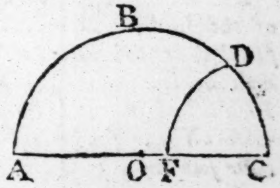
As I was walking out one evening laſt ſummer, I obſerved a perſon at a diſtance dropping a ſtone into a coal-pit; the noiſe that it made by ſtriking againſt the bottom, reached my ear exactly in $\frac{1}{3}$ part of the time that the ſtone was in falling, and the perſon at the brink of the pit heard the ſound one ſecond ſooner than I did. Required the depth of the pit.

X QUESTION 963, *by the Rev. Mr* John Sampſon.

Given $\frac{\dot{x}}{x} + \frac{\dot{y}}{y} = \frac{x^m \dot{x}}{a y^n}$, to find the relation of x and y.

XI QUESTION 964, *by* Ferdinando.

ABC is a given ſemicircle, O its centre, and with any line CD as a radius there is deſcribed the arch DF; it is required to find the length of the ſaid radius ſo, that the quadrature of the ſpace DFC, cut off the ſemicircle by the ſaid arch DF, may be equal to any given quantity.

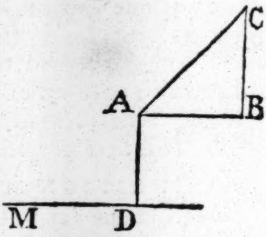


XII QUESTION 965, *by Mr* John Rodham, *Richmond.*

A veſſel being filled with water, it is obſerved, on emptying it by a hole in the bottom, whoſe area is one inch, that the perpendicular deſcent of the ſurface of the water, is uniformly 4 inches per minute; the perpendicular height of the veſſel is 5 feet, required its content in ale gallons.

XIII QUESTION 966, *by* Vertigo.

Let AB be a given horizontal plane. It is required to find the length and poſition of another plane AC, meeting BC perp. to AB in C; ſuch that a heavy body, deſcending freely along it from C, after quitting it at A, may ſtrike another horizontal plane MD at the greateſt diſtance poſſible from D; and alſo to determine that diſtance.



XIV QUESTION 967, *by* Amicus.

If from the fixed right angle of a triangle, a perp. be let fall to the hypothenuſe (which is given and conſtant) in every poſſible poſition of it, required the equation of the curve which is the locus of the end of the perpendicular, together with its quadrature and rectification, by means of thoſe of the conic ſections.

XV, *or* PRIZE QUESTION 968, *by Mr* Da. Kinnebrook, *jun.*

Suppoſe an uniform ſlender rod AB, parallel to the horizon, (conſidered without regard to its weight) to have two equal bodies fixed to it, one at each end, and to revolve round the point C in that rod as a centre in any given time; the length of the rod being given, as alſo CD the diſtance of the middle of the rod from the centre of motion C: it is required to determine the velocity with which the rod paſſes through the point C, as alſo the time of deſcription. Suppoſing AB = 100 feet, CD = 1 inch at firſt, and the time of each revolution 20 ſeconds.

*** *The Prizes for the ſeveral ſolutions have been determined by lot as follows: Firſt, for the Prize Queſtion, to Mr Tho. Leybourn* 10, *and Mr John Rodham,* 8 *Diaries.—*2*d, for the Prize Ænigma, to Miſs Nancy Dent and Mr. Tho. Niell, each* 8 *Diaries. —*3*d, for the general Anſwers to the Enigmas, to Miſs Louiſa Amelia Harpur and Mr John Fildes, each* 8 *Diaries.—*4*th, for Rebuſes, Queries, &c. to the Rev. Mr Ewbank and Miſs Nancy Maſon, each* 6 *Diaries. All of whom will pleaſe to ſend for them to Stationers-Hall.*

But the letters for the uſe of the Diary to be directed thus, "The Author of the Ladies' Diary, Stationers-Hall, London." And they muſt be franked or poſt paid, or they will not be received; and the laſt of them muſt be ſent before the firſt of May, but thoſe for the Solution of the Prize Enigma and Prize Queſtion before Candlemas Day. And along with all new Enigmas, Rebuſes, Charades, and Queſtions, muſt be ſent their ſolutions.

FINIS.